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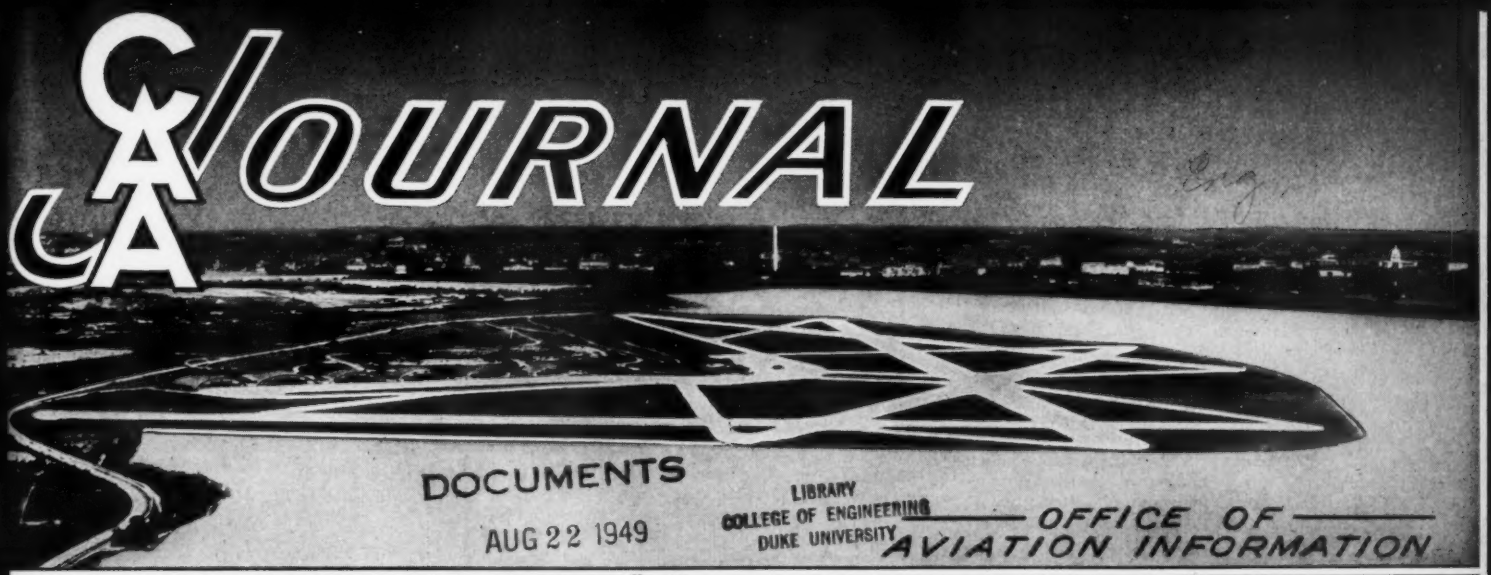

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CAA Outlines 3-Year Plan To Develop RTCA System

With $30,645,503 available during the 1950 fiscal year to purchase electronics equipment, the Civil Aeronautics Administration's Office of Federal Airways has blueprinted a 3-year program for spending $213,000,000 to complete the preliminary phases of the Nation's civil-military air navigation and control system.

If funds are available for the fiscal years 1951 and 1952, it is hoped to have the interim system (outlined in the SC–31 report of the Radio Technical Commission for Aeronautics) operating for airlines, private pilots, and military aircraft by the winter of 1953–54.

With 294 of the new-type, very high frequency omniranges operating on June 1 out of a total of 409 planned for eventual installation, this phase of the program was about three-quarters complete. It was indicated that considerable modification may be necessary on the omnirange to improve its accuracy characteristics.

Instrument landing systems were in operation at 92 airports, with 320 planned for eventual installation. First installation of traffic control search radar and precision beam approach radar (GCA) specifically designed for civil airport use will be made before the end of 1949.

Distance Measuring Equipment Pushed.—During the remaining months of the present year, major emphasis will be on pushing distance measuring equipment (DME) out of the developmental stage into standardized production. International agreement on DME specifications was reached at a recent ICAO communications meeting in Montreal and United States developmental DME equipment is being modified to meet the international specifications.

This fall a joint CAA-Air Force-Navy service test of the modified airborne DME equipment will begin on the three ground DME stations in operation at Wright Field, Indianapolis, and Patuxent River, Md. It is expected these tests will provide data for evaluation of the airborne equipment and for writing of detailed production specifications for electronics manufacturing. Airborne DME equipment probably will not be available to airlines and the military services in quantity until some time in 1950.

The 729 DME stations planned will be located at the sites of all omniranges and at the ends of instrument landing runways. These DME-runway installations eventually will replace the ILS 75-megacycle marker beacons to indicate an approaching plane's distance from the runway's end.

Some work is planned on lightweight airborne DME equipment for small executive-type planes but the cost and technical problems involved now indicate a limited market for this equipment.

Basic planning for the new airways system is aimed at getting main trunk lines completely equipped and operating first, rather than installing all of a certain type of equipment throughout the country and then moving on to install another piece of equipment. The aim is to relieve the bad weather traffic pressure and congestion at major air terminals first, then work back

(*Continued on page 87*)

Airport Problems Advisory Group Named for CAA

Twelve prominent private citizens, representing all phases of airport operations, have accepted the invitation of the Administrator of Civil Aeronautics, D. W. Rentzel, to serve on an "Airports Advisory Committee," to advise the CAA on its programs relating to the management, operation and maintenance of airports.

The 12 members, who will serve without fee, were selected from each of the CAA's seven continental regions, with five additional members at large on the basis of representation of all types and sizes of airports which comprise our national system. Robert N. Cook, executive officer, Office of Airports, CAA, has been designated to serve as executive secretary.

The members, all named to 1-year terms, are:

Region One: Hervey F. Law, chief of operations, Port of New York Authority, former manager of

(*Continued on page 94*)

Puerto Rico Adopts U. S. Air Rules for Irregulars

The Civil Aeronautics Administration will assist Puerto Rican aviation officials in enforcing United States regulations governing nonscheduled air operations, which the island government adopted as a result of the recent crash of a nonscheduled airliner in which 53 were killed.

Governor Luis Munoz Marin of Puerto Rico made part 42 of the United States Civil Air Regulations into law on June 16, and established penalties for violations more severe than those in effect in the United States. Violations are punishable by a fine of $10,000 or two years in prison, or both. Operators are required, under the Puerto Rican law, to file with the Transportation Authority two copies of all insurance policies carried on passengers and the Authority is empowered to notify passengers of the results of their inspections of aircraft and airmen, and to tell of the existence or non-existence of insurance policies carried on passengers.

Salvador V. Caro, manager of the Transportation Authority, and Eddie Holohan, chief of the aviation division of the Authority, conferred with CAA and Civil Aeronautics Board officials who were in Puerto Rico to investigate the accident on possible laws to govern irregular aircraft operations. United States officials explained part 42, by which irregular carriers are regulated here, and volunteered to teach Puerto Ricans the methods used in this country.

J. A. McPeeke, an aviation safety maintenance agent of CAA region 1, who already had been assigned to full-time duty at San Juan, will aid operations agent G. N. Tomberlin, also recently stationed in San Juan, in training Puerto Rico Transportation Authority personnel who will be available around the clock. Heretofore, safety agents have been sent periodically from the Atlanta office of the CAA, and there was no possibility of 24-hour service at the Puerto Rican airports.

Air transportation service by irregular carriers is necessary for Puerto Ricans, CAA officials were told, and the government has no intention of discouraging it. Looking toward greater safety, a practice of having a Puerto Rican Transportation Authority representative brief all passengers prior to take-off on use of safety belts, life-saving equipment and survival practices will be started at once.

Cockpit Standardization Is Suggested by Board In Proposed Regulation

The Civil Aeronautics Board last month issued a proposed regulation which would standardize the cockpit arrangement of all transport category aircraft on the drawing boards at the time the regulation is adopted.

The Board also invited comment on the extent to which the proposed standardized cockpit should be made applicable to existing aircraft. "This is a crucial question," the Board pointed out, "since the aircraft which will dominate the civil aviation scene for the next 5 years or more are already in operation."

The Board said it believed that requirements for cockpit standardization will aid in resolving the safety aspect of equipment interchange agreements between civil air carriers. Furthermore, a standardized cockpit will prevent any decrease in the current standard of safety of air carrier operations that might otherwise result from cockpit arrangement variations between the same type of aircraft operated by the contracting carriers, the Board said.

Armed Services Reach Agreement.—The Board revealed that the problem of cockpit standardization has been given considerable attention by various aviation groups, but stated that until the recent armed services agreement on a standardized cockpit, all standardization proposals in this country have encountered sufficient resistance to kill them before they could receive any serious consideration by the civilian agencies.

The Board pointed out that an agreement on a standardized cockpit now having been reached by the largest purchaser of aircraft in the United States (the armed services), it would appear to be an appropriate time to propose the same type of standardized cockpit for all other purchasers of equipment. The Board added that variations in cockpit arrangements not only increased the cost of aircraft to the civil carriers, but also rendered more difficult the integration of such aircraft into the military program in the event of national emergency.

To Follow Military Arrangement.—The proposed regulation follows the military arrangement as closely as possible, the Board said, "not only because we believe the cockpit layout agreed on is a suitable one, but also because of the advantages from a national defense standpoint of a substantial similarity between military aircraft and civilian aircraft." The armed services have been vitally interested in promoting such standardization and through the cockpit layout panel of the aircraft committee of the Munitions Board, they have reached agreement on an appropriate cockpit arrangement for all aircraft used by the military services.

The Board said that interested persons may participate in the making of the proposed rules by submitting written data or arguments as they may desire, but that all communications received within 60 days from July 1 will be considered by the Board before taking further action on the proposed rules. Communications should be submitted to the Civil Aeronautics Board, attention of the Bureau of Safety Regulations, Washington 25, D. C.

Newport News Service Recommended

James M. Verner, an Examiner for the Civil Aeronautics Board, last month made a report recommending that Capital Airlines be authorized to serve Newport News, Va., as an intermediate point between Washington, D. C., and Norfolk, Va., on route No. 14, and as a coterminal point with Norfolk, Va., on route No. 51.

Military Services Get 78 Percent of Output

Total sales by aircraft, engine and propeller manufacturers during the first quarter of 1949 amounted to 384 million dollars. This was equivalent to an annual rate of 1.5 billion dollars. Sales to the United States military services accounted for 78 percent of the total, civil aviation sales 14 percent, and other nonaeronautical products and services 8 percent.

As of March 31, 1949, the combined backlog for the aircraft, engine and propeller industries stood at about 3 billion dollars. Of this amount, 2 billion dollars, or 67 percent, represented orders for complete aircraft and parts; 784 million dollars, or 26 percent, represented orders for aircraft engines and parts; 101 million dollars, or 3 percent, represented aircraft propellers and parts; and 120 million dollars, or 4 percent, represented orders for other products and services. The backlog on hand as of March 31, 1949, was 42 percent greater than the 2.1 billion dollar backlog a year ago.

The detailed figures on new orders, sales, and backlog for the first quarter, 1949 show:

Backlog, Sales, and Net New Orders for Quarter Ending March 31, 1949

(In Millions of Dollars)

	Net new orders during quarter [1]	Net sales during quarter	Backlog at end of quarter
Total	$269	$384	$2,991
Complete aircraft and parts	125	226	1,986
U. S. Military	93	187	1,859
Other	32	39	127
Aircraft engines and parts	110	113	784
U. S. Military	87	101	746
Other	23	12	38
Aircraft propellers and parts	12	14	101
U. S. Military	10	10	96
Other	2	4	5
Other products and services	22	31	120

[1] New orders received during quarter less cancellations during quarter. Cancellations not shown separately to avoid disclosing data for individual companies.

Decline Noted in Shipments But Value of Engines Is Up

May shipments of civil aircraft engines totaled 481, representing an output of 121,700 horsepower, valued at $1,365,000. May production was 20 percent less than April in number, but horsepower output and dollar value showed increases of two percent and 22 percent. The comparable figures for May 1948, were 1,286 engines, 305,000 horsepower, and $2,923,000.

The detailed figures on May 1949, civil aircraft engine shipments are as follows:

Civil Engine Shipments, April and May 1949

	May 1949	April 1949
Number	481	603
Horsepower output (000)	121.7	119.3
Value (000)	$3,699	$3,397
Engines	$1,365	$1,120
Parts	$2,101	$2,150
Other products	$233	$127

RTCA Secretariat in New Location

The Radio Technical Commission for Aeronautics Secretariat is now located in room 109, 1724 F Street Northwest, Washington, D. C., where requests for RTCA publications should be addressed.

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DEPARTMENT OF COMMERCE
Charles Sawyer, *Secretary*

Civil Aeronautics Administration
D. W. Rentzel, *Administrator*

Ben Stern, *Director*
Office of Aviation Information

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CAA and CAB Releases

Copies of CAA releases may be obtained from the CAA Office of Aviation Information. CAB releases are obtainable from the Public Information Section of the Board. Both offices are located in the Department of Commerce Building, Washington 25, D. C.

Administration

Washington National Airport Sets All-time Passenger Record—(July 6).

CAA Urges Flashing Lights for Small Personal Planes—(July 19).

Farmers Now Fly Airplanes to Look at Horses at Fair—(July 22).

CAA Announces 1950 Federal-aid Airport Program—(July 23).

Puerto Rico Adopts U. S. Laws Governing Nonscheduled Carriers—(July 26).

Airport Experts Selected to Advise CAA on Operation Problems—(July 22).

Address by John H. Geisse, Consultant, CAA, Before the Second Annual N. D. Safety Conference, held at Minot State Teachers College, Minot, N. D., entitled, "Safety Features of the Cross-wind Landing Gear" (June 13, 14, 1949).

Transcript of First National Agricultural Aviation Conference, by D. W. Rentzel, Administrator of Civil Aeronautics, given at Kansas City, Mo. (April 21–22, 1949).

Board

CAB Amends Capital's Certificates for Routes 14 and 41 (CAB 49–50) June 24.

(No release CAB 49–51 issued.)

Board Sets Hearing for American Airlines Accident, Memphis, Tenn., June 22, 1949 (CAB 49–52) June 29.

Board Proposes to Extend Certificate of West Coast Airlines for Five Years (CAB 49–53) June 29.

CAB Recodifies Economic Regulation (CAB 49–54) July 1, 1949.

Board Proposes to Standardize Transport Aircraft Cockpits (CAB 49–55) July 1.

Financial Statistics for First Quarter (CAB 49–56) July 8, 1949.

Change in Safety Regulations for Interstate Scheduled Commercial Passenger Operations (CAB 49–57) July 13, 1949.

Mileage & Traffic Statistics for April 1949 (CAB 49–58) July 19.

Public Hearing Ordered for Standard Airlines Fatal Accident at Chatsworth, California (CAB 49–59) July 21, 1949.

1950 Airport Program Includes 314 Projects

A list of 314 airport construction or development projects to be undertaken under the Federal Aid Airport program during fiscal year 1950 was announced recently by D. W. Rentzel, Administrator of Civil Aeronautics.

The program involves $29,840,767 in Federal funds with local or state sponsors providing matching funds totaling $37,432,752. The 314 projects announced by the Administrator include 172 for construction or improvement of Class I, II and III airports representing $5,534,192 in Federal funds; 141 for construction or development of Class IV or larger airports, totaling $24,301,575 in Federal funds; and the construction of one seaplane base at an expenditure of $5,000 in Federal funds.

Of the total of $39,500,000 appropriated for airport work during fiscal year 1950, $3,000,000 is for administrative purposes, $500,000 for work in the Territories, $27,000,000 has been apportioned among the states under a formula provided by law, and $9,000,000 remains in a discretionary fund that may be used by the Administrator regardless of state boundaries.

There are 18 states where the state apportionment has not been fully covered by approved projects. Legislation is pending to change the apportionment formula from 75 percent for state apportionment and 25 percent for the discretionary fund to 60 percent for the former and 40 percent for the latter. If enacted into law, this will make possible the programming of approximately five million dollars additional money from the discretionary fund to meet the need in some 30 states where project requests far exceed the available funds. This legislation would assure all states the present 75 percent, provided they have projects ready to be undertaken.

Civil Aircraft Shipments Totaled 474 During May

May shipments of civil aircraft totaled 474 planes, weighing 460,800 airframe pounds, valued at 5.2 million dollars. The May output represented an increase of 5 percent in number over April, but airframe weight and dollar value registered declines of 20 percent and 38 percent, respectively. Comparable figures on civil aircraft shipments for May 1948, were 812 aircraft, weighing 1,397,600 airframe pounds, valued at 19 million dollars.

Of the 474 civil aircraft shipped during May 1949, 461 were personal-type and 13 were transport-type. For the first 5 months of this year, shipments of personal aircraft totaled 1,650 compared with 2,988 in the same period of 1948. Transport shipments were almost identical, 92 against 91.

The detailed figures on May civil aircraft shipments show:

Civil Aircraft Shipments, May–April 1949

	May 1949	April 1949
Number by type:		
Personal	461	436
Transport	13	16
Number by place:		
1- and 2-place	145	132
3- to 5-place	316	304
Over 5-place	13	16
Airframe weight (000 lbs.):		
Personal	313.8	324.8
Transport	147.0	250.9
Value ($000):		
Aircraft	$5,181	$8,299
Parts	$2,004	$2,377
Other products	$1,599	$1,698

Program for Interim Airways System Outlined

Type of facility	Total CAA requirements under SC-31 program—number of facilities	Authorized through fiscal year 1949—number of facilities	Total 1950 program		Balance future years Fiscal years 1951 and 1952	
			Number of facilities	Amount	Number of facilities	Amount
Continental United States:						
VHF-ILS equipment (includes LF locators)	320	137	38	$4,294,000	145	$21,140,735
High intensity approach lights	320	12	13	1,335,685	295	41,716,152
Distance measuring equipment	729	16	560	15,043,226	153	5,314,670
Precision approach radar	82	15	13	2,340,000	54	17,613,522
Airport surveillance radar	150	25	19	4,332,000	106	39,791,987
Secondary radar	150				150	21,450,000
VHF-ADF equipment	150		44	601,392	106	1,707,118
VHF-omnirange	409	409				
Mechanical interlocks	50	8	30	442,200	12	220,944
Airport time utilization	50				50	3,403,125
Approach control timing devices	50	4	15	495,000	31	1,125,300
Alaska:						
VHF-ILS equipment (includes LF locators)	16	7	4	560,000	5	931,230
High intensity approach lights	16				16	2,946,432
Distance measuring equipment	22		11	407,000	11	505,263
Precision approach radar	8	1	1	225,000	7	3,029,219
Airport surveillance radar	12	4	2	570,000	6	2,997,492
Secondary radar	12				12	2,287,992
VHF-ADF equipment	12				12	253,143
VHF-omnirange	6	1			5	421,505
Mechanical interlocks						
Airport time utilization						
Approach control timing devices						
Pacific areas:						
VHF-ILS equipment (includes LF locators)	8	1			7	1,303,722
High intensity approach lights	8				8	1,366,272
Distance measuring equipment	18				18	826,794
Precision approach radar	5				5	2,189,601
Airport surveillance radar	8	1			7	3,421,855
Secondary radar	8				8	1,525,328
VHF-ADF equipment	8				8	170,167
VHF-omnirange	10	6			4	337,204
Mechanical interlocks						
Airport time utilization						
Approach control timing devices						
Caribbean area:						
VHF-ILS equipment (includes LF locators)	6				6	1,117,476
High intensity approach lights	6				6	1,024,704
Distance measuring equipment	12				12	551,196
Precision approach radar	1				1	419,809
Airport surveillance radar	2				2	949,018
Secondary radar	2				2	381,332
VHF-ADF equipment	2				2	41,488
VHF-omnirange	6				6	505,806
Mechanical interlocks						
Airport time utilization						
Approach control timing devices						
Total				30,645,503		182,996,601

3-Year Plan Outlined To Develop Airways

(Continued from page 85)

through the airways system to segments where lower traffic densities make operational problems less urgent.

Airports Are Classified.—In working out this priority system, an arbitrary airport classification has been drawn up, as follows:

A basic instrument terminal area is an airport where instrument approaches can be made using en route airways facilities such as the omnirange and DME.

A class D area is an airport that has its own omnirange, DME, and an instrument landing system (ILS), plus high-intensity approach lights.

A class C area has all the class D equipment plus a traffic control tower.

A class B area is characterized by the addition of traffic control search radar to the above facilities.

A class A area has precision beam approach radar (GCA) in addition to everything provided in a class B area.

The blueprint for completing the 3-year interim program is shown in the accompanying table. The table below gives the implementation schedule for fiscal years 1950, 1951, and 1952:

Implementation Schedule

Classification	Fiscal year		
	1950	1951	1952
Basic Instrument Air Terminal Area	227	110	120
Class D	0	0	117
Class C	0	79	53
Class B	0	31	68
Class A	18	64	82
Total	245	284	440

Flashing Position Lights Urged for Private Planes

Flashing position lights for aircraft, which have proved their value on transport planes, now are urged by the Civil Aeronautics Administration for private aircraft flying at night.

While they are not compulsory, the CAA believes that many private owners will want to use them, especially since inexpensive versions, easy to install and maintain, are available. In information furnished to aircraft owners and pilots, the CAA lists two kinds of flashing lights, a "fail-safe" type which turns on the steady light if the mechanism fails, and the "non-fail-safe" which does not.

The units for private aircraft cost from $4 to $20, weigh from three to 20 ounces and require very little electric power. The fail-safe system is easier to install and can be done by any mechanic.

Transport planes long have used flashing position lights because they are so distinctive in the air. There have been narrow escapes from accidents in the air when steady aircraft position lights have been mistaken for stars. With the lights flashing from 72 to 120 times a minute, CAA engineers point out, there is little possibility of such mistakes.

Longitudinal Control Lost.—Loss of longitudinal control, from a cause which could not be determined, was given by the CAB as the probable cause of an accident at Chicago March 10, 1948, in which eight of nine passengers and four crew members were killed when a Delta Air Lines plane crashed shortly after taking off. One passenger was seriously injured. The aircraft was destroyed.

The take-off and initial climb appeared normal but approximately three-quarters of the way down the runway, while at an altitude of between 150 and 200 feet, the airplane assumed a very steep climbing attitude. At an altitude between 500 and 800 feet the airplane stalled, crashed to the ground, and was destroyed by impact and fire 150 feet beyond the north boundary of Chicago's Municipal Airport.

There was no evidence to indicate that there was mechanical malfunctioning or structural failure of the airplane prior to the time of impact, the CAB reported. The total weight of the airplane was less than the maximum. Weather before and at the time of the accident was not conducive to the formation of ice.

"There is a possibility that the accident resulted from taking off with the elevator trim tabs set for nose high flight," the CAB accident report stated. "Had this been true, excessive control column pressures would have built up rapidly as air speed increased during the take-off and climb. However, the adjustment of the elevator trim tab control to a take-off position would have been a simple and routine operation."

It was noted that the elevator trim tab was found in approximately neutral position when the wreckage was examined. "Therefore," the report continued, "though there is the possibility that the airplane took off with the elevator trim tab set for nose high flight, it does not appear to be a probable cause of the accident."

All the servo-unit engaging controls for the automatic pilot were found in the "off" position, leading to the belief that the automatic pilot was not a contributing cause. "Even had the automatic pilot been inadvertently engaged before or during take-off it would not account for the accident," the CAB found. "The overriding valves were found in good condition, and the crew could have overpowered the automatic pilot before the airplane reached a dangerous climbing attitude."

It was suggested, also, that there is a possibility that the elevator gust lock mechanism was locked during the take-off and initial climb, then released too late to permit regaining control of the airplane. However, as the result of test flights, this possibility was discounted by the Board, which found that "the tests do not materially suport the theory that the gust lock mechanism was engaged."

Pilot Flew Too Low.—An aircraft accident near Cherryland Airport, Sturgeon Bay, Wis., the evening of December 4, 1948, resulted in death to Pilot Karl Reynolds and his two passengers when the plane crashed in darkness and burned after striking a tall pine tree. Probable cause of the accident, the CAB found, was that the pilot, under conditions of poor visibility, flew too low in an attempt to maintain visual contact with the ground.

The plane took off from Fond du Lac, an unlighted airport, for Sturgeon Bay almost half an hour after official sunset. No known attempt was made to check weather conditions. The airport operator reported ceiling was estimated 200 feet, visibility one-half mile.

Although the airplane was equipped for instrument flight, Pilot Reynolds did not hold an instrument rating and there were no radio aids to navigation in the area in which he was flying.

Evidence indicates that the flight, aided by a brisk, quartering tail wind, arrived in the general area but considerably northwest of its destination approximately one-half hour after take off and spent 1¼ hours maneuvering at low altitudes in an apparent attempt to locate Cherryland Airport in the adverse weather.

Plane Disappeared En Route.—Information is not available to determine the cause of the loss of a plane leased to Airborne Transport, Inc., which disappeared with 29 passengers and 3 crew members en route from San Juan, Puerto Rico, to Miami, Fla., December 28, 1948, the CAB said.

The previous day the plane had landed at San Juan after difficulty with the landing gear. It was reported that the pilot said that when the landing gear was lowered, the landing gear warning lights indicated that the gear was not locked. A repair agency at the airport was contacted by the pilot and asked to examine the aircraft's batteries. They were found to be discharged with the water level low. Advised that it would take several hours to recharge the batteries to their proper operating capacity, the pilot asked the mechanic to add water and return the batteries to the aircraft without charging. The landing gear warning ligh system was reported as malfunctioning but was not repaired.

"Under normal operation," the CAB accident report stated, "the batteries should have been charged to operating capacity after the 7-hour flight to San Juan. At the time of departure from San Juan the aircraft's transmitter was not functioning, due to discharged batteries. There was no report of any malfunctioning of any part of the aircraft other than the electrical system, either on the flight to San Juan or while there."

Preparatory to taking off for Miami the night of December 27, the pilot filed an instrument flight plan but this was cancelled after a delay due to battery difficulties on the airplane. Subsequently the pilot was authorized a VFR take-off, with the understanding that the flight was to remain in the vicinity of San Juan, and attempt to establish radio contact with the tower. Once contact was established, an IFR flight plan would be filed enabling the aircraft to proceed to Miami. If this was impossible, the aircraft was to return to San Juan.

"The basis of this agreement," the Board said, "was the belief that the aircraft's generators would shortly produce sufficient current capacity to allow transmission. However, the aircraft took off, and without further contact with the tower, continued on course. Although the original IFR flight plan had been cancelled due to delay in departure it is believed that the pilot thought that it either was, or could be, reinstated. This is substantiated by the fact that 11 minutes after take-off, CAA communications in San Juan received a message from the flight which advised that it was unable to contact the tower and was proceeding on the IFR flight plan to Miami."

Some 6 hours after the take-off, the New Orleans overseas foreign airways communications station intercepted a position report from the plane which stated the flight was 50 miles south of Miami. This was the last known contact with the aircraft. It is possible, the Board said, that some failure of the electrical system occurred subsequent to this transmission, making the aircraft's radio and automatic compass inoperative.

"It is also possible," the Board added, "that the pilot may have been in error as to his reported position. Since the aircraft had fuel for 7½ hours of flight, and since the last message was intercepted approximately 6 hours and 10 minutes after take-off, an error in location would be critical."

An extensive search by the search and rescue agency of the United States Coast Guard, utilizing facilities of other agencies, civil aircraft and ground parties, failed to locate any trace of the missing aircraft and was terminated 6 days later.

Sufficient Altitude Not Maintained.—American Airlines flight 6, from Los Angeles to Chicago, struck a power line during an ILS approach to the Chicago Municipal Airport March 26, 1949. An emergency pull-up was made and the flight proceeded to Indianapolis, where a normal landing was made. No one was injured and the aircraft sustained no damage.

The Board determined that the incident resulted from failure of the flight to maintain sufficient altitude to clear obstructions during an instrument approach.

When the flight arrived in the Chicago area, weather conditions and other traffic caused a delay of 57 minutes, following which the flight was cleared to start an ILS approach from the outer marker.

The airplane arrived over the outer marker at an altitude of approximately 3,500 feet, from which a steep right turn and rapid descent were executed in order to return to and pass over the outer marker on time and at the required approach altitude of 2,255 feet.

The flight left the outer marker at the proper time but at an altitude 500 to 600 feet higher than required. In order to lose this excess altitude before passing the middle marker, the rapid descent (calculated to have been approximately 1,300 feet per minute at an air speed of 150 miles per hour) was continued without regard to glide path indication, the CAB accident report stated.

The captain stated that he started slowing his descent when his altimeter registered 350 feet about the airport level but that the airplane descended slightly below an altitude of 300 feet before descent was checked. One and three-quarter miles short of the airport and before reaching the middle marker, the airplane struck the second of two parallel wires 48 feet apart and approximately 145 feet above the field elevation. These wires are located 381 feet below the ILS glide path.

Power was immediately applied for a quick pull-up, the captain declared an emergency and proceeded to Indianapolis.

CAA Radio Station in Alaska "Talks" Lost Plane to Safety

How a personal plane, lost in the vicinity of Prince Rupert, British Columbia, was "talked" to a safe landing at Annette Island after nearly 4 hours was told recently in a report from a Civil Aeronautics Administration aircraft communicator at Annette Island.

The pilot, John Ellis, and passenger, Otto Endall, both of Lansing, Mich., were en route to vacation at Wrangell, Alaska.

When the pilot contacted Annette Radio, he reported that he was receiving an "A" signal from the Annette range. He was given the Massett range frequency and requested to observe and report the signal received from that station. Shortly thereafter he reported that he had changed course and was receiving an "A" from the Massett range. He was requested to maintain the heading as long as he could remain VFR and to report any change in the Massett signal. Within a short time, the pilot advised that he was receiving an "on course" from the Massett range and was still receiving the "A" from Annette. He was then given instructions how to proceed to Annette where he landed with one hour's fuel remaining.

The aircraft communicator who handled the largest portion of the communications with the lost aircraft was Fred H. Whaley. The senior aircraft communicator was Leon D. Lewis. The chief aircraft communicator was present throughout the period of the emergency acting almost entirely in the role of observer.

Scheduled Air Carrier Operations

[Source: CAB Form 41]

International and Overseas: January–April 1949, 1948

Operator	Revenue miles January–April		Revenue passengers January–April		Revenue passenger-miles (000) January–April		Passenger seat-miles (000) January–April		Revenue passenger load factor (percent) January–April	
	1949	1948	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	751,422	689,430	25,222	16,717	21,893	13,870	34,207	25,111	64.00	55.23
American Overseas Airlines	2,289,007	1,874,576	23,456	12,942	45,966	31,986	82,187	70,861	55.93	45.14
Braniff Airways	444,440	–	3,486	–	6,682	–	20,152	–	33.16	–
Chicago & Southern Air Lines	464,861	163,030	8,031	3,702	8,269	2,536	23,015	7,337	35.93	34.56
Colonial Airlines	256,275	229,358	4,842	6,468	3,824	5,086	11,262	9,996	33.95	50.88
Eastern Air Lines	249,600	249,720	4,342	4,913	4,943	5,103	11,913	13,938	41.49	36.61
National Airlines	197,362	112,691	17,874	7,117	5,224	2,175	9,565	5,185	54.62	41.95
Northwest Airlines	1,925,240	1,343,028	10,481	7,661	20,812	15,610	45,447	31,242	45.79	49.96
Pan American Airways:										
Atlantic Division	4,173,139	3,809,127	37,534	32,712	83,618	71,378	127,506	117,527	65.58	60.73
Latin American Division	9,976,128	9,463,168	252,874	238,509	187,969	179,626	349,124	349,339	53.84	51.42
Alaska Operations	782,562	759,714	9,710	7,525	10,295	8,096	22,468	22,561	45.82	35.88
Pacific Operations	5,221,980	4,741,837	25,018	25,857	72,875	79,079	122,632	116,967	59.43	67.61
Pan American-Grace Airways	1,914,233	1,875,965	32,611	32,929	38,597	35,528	63,113	56,468	61.16	62.92
Transcontinental & Western Air	3,942,807	3,466,364	25,972	18,124	75,881	56,400	131,323	116,456	57.78	48.43
United Air Lines	744,985	576,000	7,856	4,361	18,418	10,465	31,483	20,260	58.50	51.65
Uraba, Medellin & Central Airways	34,544	49,184	1,112	886	369	295	551	777	66.97	37.97
Total	33,368,585	29,403,192	490,421	420,423	605,635	517,233	1,085,948	964,025	55.77	53.65
Index (1948=100)	113.49	100.00	116.65	100.00	117.09	100.00	112.65	100.00	103.95	100.00

Operator	Ton-miles flown							
	Express January–April		Freight January–April		U. S. Mail January–April		Parcel Post January–April	
	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	0	0	431,196	463,423	44,192	24,914	0	0
American Overseas Airlines	1,576,590	612,574	0	0	471,902	440,976	110,461	19,120
Braniff Airways	0	–	59,947	–	4,904	–	0	–
Chicago & Southern Air Lines	0	0	96,768	34,132	3,197	448	222	0
Colonial Airlines	0	0	38,010	16,304	2,910	2,742	440	92
Eastern Air Lines	0	0	175,002	130,469	16,852	14,966	855	0
National Airlines	99,909	74,203	0	0	4,219	4,188	0	0
Northwest Airlines	31,878	13,037	1,410,675	334,702	695,467	326,757	0	0
Pan American Airways:								
Atlantic Division	2,828,372	1,615,368	0	0	794,650	853,612	99,193	21,922
Latin American Division	6,563,568	5,888,697	0	0	893,517	863,045	0	0
Alaska Operations	1,112,825	634,290	0	0	130,527	120,055	0	0
Pacific Operations	1,658,828	1,172,825	0	0	1,782,143	1,162,693	0	0
Pan American-Grace Airways	481,711	494,661	191,834	5,908	114,018	63,496	7,864	0
Transcontinental & Western Air	2,210,470	1,059,052	0	0	833,128	803,897	157,062	41,671
United Air Lines	51,875	40,280	0	0	282,407	123,937	0	0
Uraba, Medellin & Central Airways	14,634	15,943	0	0	0	0	0	0
Total	16,630,660	11,620,930	2,403,432	984,938	6,074,033	4,805,726	376,097	82,805
Index (1948=100)	143.11	100.00	244.02	100.00	126.39	100.00	454.20	100.00

International and Overseas: April 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-miles flown			
						Express	Freight	United States mail	International parcel post
American Airlines	180,040	7,213	5,433	8,403	64.66	0	114,774	12,069	0
American Overseas Airlines	648,914	7,798	15,273	23,687	64.48	463,867	0	125,378	31,491
Braniff Airways	136,229	1,078	2,268	6,127	37.02	0	15,440	1,424	0
Chicago & Southern Air Lines	119,135	2,264	2,152	5,887	36.56	0	26,176	806	26
Colonial Airlines	69,740	1,778	1,407	3,055	46.06	0	13,898	778	138
Eastern Air Lines	62,400	1,002	1,042	3,100	33.61	0	40,034	4,805	460
National Airlines	45,725	3,850	1,131	2,260	50.04	24,604	0	1,138	0
Northwest Airlines	478,656	2,990	6,061	11,715	51.74	6,804	362,787	154,653	0
Pan American Airways:									
Atlantic Division	1,184,310	13,187	26,559	36,965	71.85	747,928	0	220,693	28,304
Latin American Division	2,411,500	59,218	45,997	85,239	53.96	1,493,022	0	234,642	0
Alaska Operations	207,255	2,619	2,635	5,595	47.10	344,115	0	33,695	0
Pacific Operations	1,131,178	6,509	18,504	29,091	63.61	455,283	0	451,366	0
Pan American-Grace Airways	478,343	8,324	9,453	15,661	60.36	140,157	38,960	30,332	2,341
Transcontinental & Western Air	1,149,053	9,040	25,627	37,758	67.87	566,839	0	233,321	41,710
United Air Lines	225,758	1,728	4,151	9,231	44.97	16,439	0	82,846	0
Uraba, Medellin & Central Airways	8,632	297	99	138	71.74	3,487	0	0	0
Total	8,536,868	128,895	167,792	283,912	59.10	4,262,545	612,069	1,587,946	104,470

Domestic: Passenger-miles flown (total revenue and non-revenue, in thousands)

	January	February	March	April	May	Total
Trunk lines	436,938	440,903	541,986	585,751	616,776	2,622,354
Feeder lines	6,714	7,545	9,821	11,529	12,771	48,380
Territorial lines	4,326	3,709	3,794	4,404	3,987	20,220
Total	447,978	452,157	555,601	601,684	633,534	2,690,954

Regulations of The Administrator

(Through July 30, 1949)

NOTE: All Regulations of the Administrator in effect on June 30 1949, were published in the Federal Register, part II, section 2 ,July 16, 1949, which is on sale at 20 cents a copy by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C. Parts marked with an asterisk (*) may be obtained separately from the Superintendent of Documents at the indicated prices. Remit check or money order, made payable to the Superintendent of Documents, directly to tne Government Printing Office, Washington 25, D. C.

Part 405—Procedure of the Civil Aeronautics Administration.

Part 406—Rules of Practice Governing Proceedings to Alter, Amend, or Modify Certificates.

Part 407—Seizure of Aircraft.

Part 450—Inter-American Aviation Training Grants.

Part 501—Aircraft Registration Certificates.

*Part 502—Dealers' Aircraft Registration Certificates. (5¢.)

*Part 503—Recordation of Aircraft Ownership. (5¢.)

*Part 504—Recordation of Encumbrances Against Specifically Identified Aircraft Engines. (5¢.)

*Part 505—Recordation of Encumbrances Against Aircraft Engines, Propellers, Appliances, or Spare Parts. (5¢.)

*Part 550—Federal Aid to Public Agencies for Development of Public Airports. (10¢.)

Part 555—Acquisition by Public Agencies for Public Airport Purposes of Lands Owned or Controlled by the United States.

*Part 560—Reimbursement for Damage to Public Airports by Federal Agencies. (10¢.)

Part 570—General Regulations of Washington National Airport.

Part 571—Aeronautical Rules for the Washington National Airport.

Part 600—Designation of Civil Airways (including amendments 1 through 18).

Amendment 19. (July 28, 1949. 15¢.)

Part 601—Designation of Control Areas, Control Zones, and Reporting Points (including amendments 1 through 22.)

Amendment 23. (July 28, 1949. 15¢.)

Part 609—Standard Instrument Approach Procedure.

Part 610—IFR Altitude Minimums.

Part 625—Notice of Construction or Alteration.

Part 635—Reproduction and Dissemination of Current Examination Materials.

Washington National Airport Has Sharp Gain in Activity

With a record number of passengers handled in June, Washington National Airport completed its busiest 6-month period to date. During the first half of 1949, the National Airport served 681,714 passengers, 124,246 or 22 percent more than in the same period last year.

Aircraft arrivals and departures were also at a high level with the combined total coming to 88,919, some 13,800 or 18 percent above 1948. The largest actual increase was registered in the air carrier category which advanced from 53,380 in the first half of 1948 to 62,917 take-offs and landings this year. The military group increased by 2,600 operations and itinerant aircraft operations were up almost 2,300.

Comparable figures for the first half of each of the 4 postwar years follow:

Postwar Washington National Airport Traffic

	First six months			
	1949	1948	1947	1946
Airline passengers:				
Arrivals	337, 535	278, 406	259, 559	256, 535
Departures	344, 179	279, 062	287, 401	280, 947
Total	681, 714	557, 468	546, 960	537, 482
Aircraft arrivals and departures:				
Air carrier	62, 917	53, 380	51, 662	49, 504
Military	10, 372	7, 765	8, 415	17, 624
Itinerant	12, 984	10, 701	10, 958	8, 963
Local	2, 646	3, 232	10, 581	10, 975
Total	88, 919	75, 078	81, 616	87, 064

Scheduled Air Carrier Operations

(Continued on page 91)

Domestic: January–May 1949, 1948

Operator	Revenue miles, January–May		Revenue passengers, January–May		Revenue passenger-miles (000) January–May		Passenger seat-miles (000) January–May	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	21, 780, 309	20, 251, 702	1, 219, 435	935, 764	577, 324	441, 395	891, 678	734, 996
Braniff Airways	4, 564, 471	4, 354, 096	229, 101	213, 682	76, 070	74, 477	146, 939	135, 241
Capital Airlines	7, 877, 977	6, 489, 960	427, 101	375, 088	124, 276	99, 112	262, 554	206, 981
Chicago & Southern Air Lines	2, 983, 059	2, 661, 336	118, 616	102, 391	42, 621	40, 625	77, 800	70, 630
Colonial Airlines	1, 431, 989	1, 019, 620	65, 033	45, 864	17, 477	12, 899	30, 018	21, 308
Continental Air Lines	2, 341, 946	2, 132, 557	66, 951	58, 978	23, 793	21, 507	62, 757	43, 940
Delta Air Lines	5, 315, 745	5, 425, 153	218, 177	187, 635	92, 659	75, 845	154, 864	148, 705
Eastern Air Lines	22, 419, 734	20, 805, 027	916, 793	831, 225	441, 563	449, 945	750, 345	725, 310
Inland Air Lines	1, 016, 417	955, 088	30, 740	27, 328	10, 819	9, 899	20, 051	18, 558
Mid-Continent Airlines	3, 307, 516	3, 054, 843	130, 276	118, 899	38, 825	35, 527	69, 458	60, 831
National Airlines	3, 958, 880	1, 648, 324	130, 136	51, 365	76, 322	29, 051	158, 173	65, 924
Northeast Airlines	1, 418, 767	1, 214, 876	107, 973	91, 950	20, 316	17, 240	44, 404	40, 651
Northwest Airlines	6, 888, 625	6, 231, 806	244, 473	220, 340	126, 999	114, 077	249, 889	204, 426
Transcontinental & Western Air	20, 494, 778	21, 097, 050	520, 456	447, 727	344, 949	328, 431	626, 311	544, 353
United Air Lines	20, 061, 898	22, 475, 538	784, 367	655, 771	455, 662	384, 808	707, 986	597, 038
Western Air Lines	2, 411, 738	2, 520, 543	108, 284	108, 158	40, 191	41, 610	81, 695	78, 196
Trunk total	128, 273, 849	122, 337, 519	5, 317, 912	4, 472, 165	2, 509, 896	2, 176, 448	4, 334, 922	3, 697, 088
Index (1948=100)	104. 85	100. 00	118. 91	100. 00	115. 32	100. 00	117. 25	100. 00
Feeder Lines								
All American Airways	886, 238	687, 505	9, 536	0	1, 160	0	7, 419	0
Challenger Airlines	677, 195	541, 136	10, 643	6, 160	2, 912	1, 488	13, 765	11, 364
Empire Air Lines	425, 984	395, 907	12, 730	6, 491	2, 734	1, 433	8, 946	6, 399
Florida Airways (ceased operations Mar. 28, 1949)	193, 120	345, 094	3, 026	5, 225	409	703	1, 542	2, 696
Los Angeles Airways	141, 875	96, 637	0	0	0	0	0	0
Monarch Air Lines	683, 681	620, 805	9, 727	8, 343	2, 475	1, 923	12, 306	11, 184
Piedmont Aviation	1, 098, 633	294, 823	27, 151	5, 372	5, 889	1, 332	23, 072	6, 146
Pioneer Air Lines	1, 538, 298	1, 098, 618	39, 241	30, 701	10, 634	8, 003	37, 102	26, 435
Robinson Airlines	324, 176	–	14, 858	–	2, 224	–	6, 556	–
Southwest Airways	987, 708	855, 417	41, 519	28, 709	7, 652	5, 352	20, 743	17, 222
Trans-Texas Airways	1, 058, 413	564, 246	14, 311	4, 822	3, 531	1, 079	22, 227	11, 849
West Coast Airlines	489, 168	467, 686	22, 970	23, 219	2, 961	2, 763	10, 272	8, 786
Wisconsin-Central Airlines	541, 765	177, 868	8, 592	1, 878	1, 237	313	4, 548	1, 569
Feeder total	9, 046, 254	6, 145, 742	214, 304	120, 920	43, 818	24, 389	168, 498	103, 650
Index (1948=100)	147. 20	100. 00	177. 23	100. 00	179. 66	100. 00	162. 56	100. 00
Territorial Lines								
Caribbean-Atlantic Airlines	265, 740	163, 891	39, 263	31, 628	2, 863	1, 962	6, 548	4, 137
Hawaiian Airlines	1, 118, 720	1, 210, 740	123, 966	128, 073	17, 141	17, 954	24, 962	26, 602
Territorial total	1, 384, 460	1, 374, 631	163, 229	159, 701	20, 004	19, 916	31, 510	30, 739
Index (1948=100)	100. 72	100. 00	102. 21	100. 00	100. 44	100. 00	102. 51	100. 00
Grand total	138, 704, 563	129, 857, 892	5, 695, 445	4, 752, 786	2, 573, 718	2, 220, 753	4, 535, 357	3, 831, 477
Index (1948=100)	106. 81	100. 00	119. 83	100. 00	115. 89	100. 00	118. 37	100. 00

Operator	Revenue passenger load factor (percent) January–May		Ton-miles flown					
			Express, January–May		Freight, January–May		United States mail, January–May	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	64. 75	60. 05	1, 970, 261	2, 172, 942	12, 042, 291	7, 431, 714	3, 774, 289	2, 613, 512
Braniff Airways	51. 77	55. 07	303, 412	356, 371	397, 063	453, 319	433, 832	372, 870
Capital Airlines	47. 33	47. 88	605, 602	830, 435	2, 556, 748	1, 670, 850	414, 555	332, 301
Chicago & Southern Air Lines	54. 78	57. 52	202, 607	252, 693	210, 937	206, 061	222, 689	171, 621
Colonial Airlines	58. 22	60. 54	19, 308	20, 915	41, 687	11, 291	39, 101	32, 518
Continental Air Lines	37. 91	48. 95	37, 663	39, 053	141, 444	95, 275	85, 810	64, 881
Delta Air Lines	59. 83	51. 00	271, 316	360, 396	640, 004	643, 406	386, 769	388, 683
Eastern Air Lines	58. 85	62. 03	1, 400, 673	1, 602, 178	3, 589, 528	2, 063, 492	2, 144, 415	1, 699, 487
Inland Air Lines	53. 96	53. 34	26, 311	20, 433	48, 435	23, 079	48, 285	42, 275
Mid-Continent Airlines	55. 90	58. 40	72, 582	74, 301	134, 230	100, 477	127, 573	108, 789
National Airlines	48. 25	44. 07	207, 368	249, 677	469, 951	354, 223	261, 963	92, 187
Northeast Airlines	45. 82	42. 41	28, 639	41, 097	85, 652	59, 786	37, 995	22, 920
Northwest Airlines	50. 82	55. 80	594, 736	663, 348	1, 787, 681	606, 874	981, 083	868, 159
Transcontinental & Western Air	55. 08	60. 33	1, 808, 621	2, 369, 417	4, 753, 666	3, 547, 154	3, 842, 960	4, 032, 209
United Air Lines	64. 36	64. 45	2, 343, 538	2, 867, 460	9, 050, 698	7, 124, 681	4, 055, 953	3, 123, 350
Western Air Lines	49. 20	53. 21	95, 111	117, 025	193, 415	287, 962	148, 816	176, 712
Trunk total	57. 90	58. 87	9, 987, 748	12, 037, 741	36, 143, 430	24, 679, 644	17, 006, 088	14, 142, 674
Index (1948=100)	98. 35	100. 00	82. 97	100. 00	146. 45	100. 00	120. 25	100. 00
Feeder Lines								
All American Airways	15. 64	–	15, 915	11, 560	0	0	19, 262	14, 604
Challenger Airlines	21. 16	13. 09	16, 731	5, 585	33, 661	12, 335	17, 031	9, 460
Empire Air Lines	30. 56	22. 39	5, 236	2, 844	0	0	8, 031	7, 798
Florida Airways (ceased operations Mar. 28, 1949)	26. 52	26. 08	660	1, 955	0	0	1, 812	3, 201
Los Angeles Airways	–	–	0	0	0	0	18, 178	7, 708
Monarch Air Lines	20. 11	17. 19	7, 067	4, 734	29, 142	27, 055	9, 807	9, 060
Piedmont Aviation	25. 52	21. 67	11, 970	2, 238	18, 424	1, 326	12, 707	3, 202
Pioneer Air Lines	28. 66	30. 27	10, 370	7, 147	23, 664	8, 024	34, 896	18, 405
Robinson Airlines	33. 92	–	0	–	6, 680	–	6, 431	–
Southwest Airways	36. 89	31. 08	12, 604	9, 998	41, 877	28, 286	20, 288	16, 220
Trans-Texas Airways	15. 89	9. 11	7, 023	2, 610	4, 084	1, 046	26, 229	6, 384
West Coast Airlines	28. 83	31. 45	3, 827	3, 826	0	0	3, 957	5, 228
Wisconsin-Central Airlines	27. 20	19. 95	6, 284	2, 261	0	0	6, 943	2, 545
Feeder total	26. 01	23. 53	97, 687	54, 758	157, 532	78, 072	185, 572	103, 815
Index (1948=100)	110. 54	100. 00	178. 40	100. 00	201. 78	100. 00	178. 75	100. 00
Territorial Lines								
Caribbean-Atlantic Airlines	43. 72	47. 43	0	0	12, 801	2, 436	3, 516	2, 247
Hawaiian Airlines	68. 67	67. 49	56, 544	54, 859	182, 904	219, 929	22, 215	15, 271
Territorial total	63. 48	64. 79	56, 544	54, 859	195, 705	222, 365	25, 731	17, 518
Index (1948=100)	97. 98	100. 00	103. 07	100. 00	88. 01	100. 00	146. 88	100. 00
Grand total	56. 75	57. 96	10, 141, 979	12, 147, 358	36, 496, 667	24, 980, 081	17, 217, 391	14, 264, 007
Index (1948=100)	97. 91	100. 00	83. 49	100. 00	146. 10	100. 00	120. 71	100. 00

Airline Traffic Survey For March 1948 Issued

The Civil Aeronautics Board has issued the Airlines Traffic Survey for the month of March 1948, the fourth in the semiannual postwar series of surveys. It includes detailed traffic data covering scheduled domestic, territorial, and international services of United States carriers.

International traffic reported by United States carriers for March 1948 totaled 116,470 passengers and 156,953,166 passenger-miles. New York City accounted for 47 percent of all international passenger-miles generated within the country. Together, New York City, Miami, San Francisco, Seattle, and Los Angeles accounted for 84 percent of international travel.

The volume of traffic for domestic certificated air carriers in March 1948 compares with that for March 1947 as follows (including intraterritorial operations):

Volume of Traffic—Domestic Certificated Air Carriers

Number of—	March 1947	March 1948	Percent change
Passenger originations and destinations	973,342	863,888	−11.2
Passenger-miles	541,524,788	462,428,536	−14.6
Station-to-station combinations in air passenger traffic	12,146	13,567	+11.7
Stations receiving air service	332	393	+18.4

Among the 393 domestic air stations served during March 1948, New York, Chicago, Los Angeles, Washington, and San Francisco ranked, respectively, 1–2–3–4–5, in number of passengers to and from those cities. In passenger-miles the top five rankings, in order, placed New York, Los Angeles, Chicago, Miami, and San Francisco. These top-ranking cities accounted for 30.3 percent of all domestic passengers, and for 41.4 percent of total passenger-miles. (New York totals include Newark as a copoint, and San Francisco totals include Oakland.)

New York-Boston Lead.—In domestic station combinations for all passengers ticketed, the top 100 pairs of stations accounted for nearly one-half of the total traffic for the 13,567 station combinations reported. Of all pairs of stations, by passenger totals New York-Boston, New York-Miami, Los Angeles-San Francisco, New York-Washington, and New York-Chicago ranked, in that order, 1–2–3–4–5; by passenger-miles in the top five places, the order was New York-Miami, New York-Los Angeles, New York-San Francisco, New York-Chicago and Los Angeles-San Francisco.

Base station summary tables in volume 1 list each of the 393 domestic stations receiving air service during March 1948 and show total traffic data by station-passengers originated or terminated, passenger-miles, relative rankings by passengers and passenger-miles, average length of passenger flights and number of stations with which passengers were exchanged. Interstation summary tables in volume 1 list in rank order, by passengers and passenger-miles, the 100 top-ranking pairs of domestic stations in the interchange of traffic. Summary data for international traffic, by station, are shown in volume 5.

Canadian Figures Given.—Assembled by the Civil Aeronautic Board's Analyses Division, the survey report is based on traffic data furnished by the United States domestic, territorial, and international air carriers in operation during March 1948, and by the Air Transport Board of Canada. The report comprises five volumes in two divisions—domestic and international; the basic material for each division is subclassified, as in the past, into two subdivisions—"Origination-Destination Airline Traffic Survey of Revenue Passengers," and "Station-to-Station Airline Traffic Survey of Revenue Traffic by Classes." The former includes statistics of United States-Canada transborder traffic via both United States and Canadian air carriers; data were furnished by scheduled carriers of both countries under a cooperative arrangement between the Civil Aeronautics Board and the Air Transport Board of Canada.

Volumes 1–3 comprise the domestic and territorial origination-destination airline traffic survey (volume 3 includes the transborder section); volume 4, the domestic and territorial station-to-station traffic survey; volume 5, all data covering international traffic: origination-destination of passengers, and station-to-station flow of all classes of traffic.

Territorial Traffic Covered.—Volume 1 contains summary comments covering domestic and territorial traffic; technical notes applicable to data in volumes 1–3; five illustrative maps; five summary tables; and two station and carrier coding and decoding sheets for use with volumes 2–3. Volumes 2 and 3 contain the detail, by station, of passenger originations-destinations and routings in domestic, territorial, and United States-Canada transborder traffic.

Volume 4 contains comments and technical notes; six illustrative maps; selected route data in aggregate; domestic and territorial station-to-station detail by carriers and operating segments, showing average daily traffic flow by number of passengers, pounds of mail, express, and freight, revenue capacity available in seats and total tons, load factors (percentages) for revenue passengers and total tonnage loads.

Volume 5, comprising the complete report of international traffic, contains summary comments and technical notes; nine illustrative maps; seven summary tables, two coding and decoding sheets for stations and carriers; and the detail by carrier and station of passenger origination-destination and station-to-station traffic data. A five-page supplement is provided with volume 5, showing a "Summary of Passenger Traffic Between Countries" by geographical area.

The Airline Traffic Survey for March 1948 may be purchased from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C., by the set or by the volume. The volumes are priced as follows: Volume 1, 40 cents; volume 2, $1.75; volume 3, $1.75; volume 4, $1; volume 5, $1.50. The complete set is $6.40.

Scheduled Air Carrier Operations

(Continued from page 90)

Domestic: May 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-Miles Flown: Express	Ton-Miles Flown: Freight	Ton-Miles Flown: U. S. Mail
Trunk Lines								
American Airlines	4,906,878	310,055	138,647	204,447	67.82	456,322	2,301,874	700,199
Braniff Airways	972,166	54,585	17,829	31,835	56.00	63,353	78,278	84,816
Capital Airlines	1,804,872	116,761	34,085	61,883	55.08	132,157	515,748	82,093
Chicago & Southern Air Lines	656,906	29,488	10,455	17,172	60.88	44,703	53,043	42,985
Colonial Airlines	340,470	16,689	4,428	7,127	62.13	5,545	8,702	7,811
Continental Air Lines	506,539	16,580	5,864	14,054	41.72	9,089	38,649	20,132
Delta Air Lines	1,108,416	47,841	17,568	32,131	54.68	60,451	125,791	69,708
Eastern Air Lines	4,489,758	199,861	82,082	149,942	54.74	283,357	545,712	379,594
Inland Air Lines	236,043	7,131	2,688	4,699	57.20	5,855	17,000	10,128
Mid-Continent Airlines	764,418	31,828	9,361	16,053	58.31	17,773	35,408	27,504
National Airlines	871,264	23,392	12,216	30,551	39.99	40,827	71,501	42,951
Northeast Airlines	324,191	27,782	5,249	9,882	53.12	5,538	19,502	6,474
Northwest Airlines	1,632,256	66,754	36,446	60,102	60.64	133,407	296,104	207,773
Transcontinental & Western Air	4,455,379	134,543	88,354	139,720	63.24	398,157	961,077	818,135
United Air Lines	4,699,812	204,039	117,073	166,024	70.52	469,120	1,668,569	801,636
Western Air Lines	487,247	24,062	8,853	17,633	50.21	16,677	41,967	18,461
Trunk total	28,256,615	1,311,391	591,198	963,255	61.38	2,142,331	6,778,925	3,320,400
Feeder Lines								
All American Airways	236,047	5,591	673	3,873	17.38	4,418	0	3,768
Challenger Airlines	150,101	2,614	715	3,002	23.82	2,167	8,420	3,021
Empire Air Lines	93,297	2,913	635	1,959	32.41	1,289	0	1,825
Los Angeles Airways	28,222	0	0	0	.....	0	0	3,739
Monarch Air Lines	150,564	2,715	665	2,710	24.54	1,832	9,227	2,263
Piedmont Aviation	276,515	7,936	1,677	5,807	28.88	3,333	6,033	2,813
Pioneer Air Lines	333,743	9,456	2,561	8,019	31.94	2,379	5,844	7,258
Robinson Airlines	76,696	3,806	566	1,469	38.53	0	1,219	1,763
Southwest Airways	205,906	10,704	1,943	4,324	44.94	2,783	9,791	4,154
Trans-Texas Airways	256,457	3,862	939	5,386	17.43	2,003	1,211	5,291
West Coast Airlines	115,638	6,455	847	2,428	34.88	1,040	0	950
Wisconsin-Central Airlines	128,268	3,002	437	1,131	38.64	1,720	0	1,491
Feeder total	2,051,454	59,054	11,658	40,108	29.07	22,964	41,745	38,336
Territorial Lines								
Caribbean-Atlantic Airlines	51,626	7,146	536	1,272	42.14	0	2,485	707
Hawaiian Airlines	227,373	24,991	3,396	5,067	67.02	12,337	37,607	5,323
Territorial total	278,999	32,137	3,932	6,339	62.03	12,337	40,092	6,030
Grand total	30,587,068	1,402,582	606,788	1,009,702	60.10	2,177,632	6,860,762	3,364,766

Flight Tests Recommended To Seek Spin Improvements

The Civil Aeronautics Administration's Non-Scheduled Flying Advisory Committee at its recent quarterly meeting recommended that the CAA have flight tests made on the popular light trainers to determine what spin improvements might be made by restriction of controls.

It was also recommended that the need for more single-strip airports should be given more attention in the Federal aid airport program.

The next meeting of the committee has been tentatively set for the latter part of October.

Regulations

Amdt. 20–4 . . . . . Effective June 21,1949

Prior to the adoption of this amendment, Part 20 provided that an application for a pilot certificate with a commercial rating should have 10 hours of night flight time of which at least 5 hours might be dual instruction time, and which should include not less than 10 take-offs and 10 landings as pilot in command and as sole manipulator of the controls; and that if such applicant did not meet these requirements, his certificate should be appropriately endorsed. In promulgating Amendment 20–2, effective May 1, 1949, which established these requirements, it was the intention of the Board to implement those portions of the Personnel Licensing Standards adopted in Annex 1 by the International Civil Aviation Organization (ICAO) deemed suitable for United States aviation. The international standards relating to night flight provide that 5 hours of the required 10 hours of night flight time may be dual instruction time. That requirement has been interpreted to mean that an applicant may have a maximum of 5 hours of dual instruction time rather than a minimum. The currently effective § 20.35 (a) was intended to implement this requirement. However, this section may be interpreted to mean that an applicant may have all dual instruction time except that necessary to comply with the take-off and landing requirement. In that event such applicant would not meet the international standards

Accordingly, in order to avoid the possibility of having the rule interpreted as mentioned above, this amendment deletes the words "at least" from the night flight dual instruction requirement. Thus, an applicant may not receive credit for more than 5 hours of night dual instruction time in meeting the 10-hour night flight requirement. It is necessary that the amendment be made effective immediately in order that the United States may comply with the requirements of Annex 1, which became effective May 1, 1949.

It will also be noted that the international standards require an applicant for a commercial rating to have 100 hours of flight time as pilot in command, 20 hours of cross-country flight time as pilot in command, and 10 take-offs and 10 landings at night as pilot in command. It is our understanding of these requirements that the cross-country and night flight time may be credited by the applicant in computing the required total of 100 hours of flight time as pilot in command. The current provisions of Part 20 were intended to implement the international standards in accordance with this interpretation. However, the Board has been advised that the provisions of Part 20 have been interpreted as requiring an applicant to have 100 hours of flight time as pilot in command exclusive of the flight time flown cross-country and at night. In order to clarify our requirements we are providing specifically that an applicant may credit the cross-country flight time and night flight time flown as pilot in command toward the required total of 100 hours of flight time as pilot in command. The clarifying amendment being interpretative in nature does not require compliance with rule-making procedures.

In consideration of the foregoing the Civil Aeronautics Board amends Part 20:

By amending paragraph (a) of § 20.35 to read as follows:

20.35 Aeronautical experience.

(a) *Powered aircraft.* An applicant for a commercial pilot rating shall have a total of at least 200 hours of flight time credited in accordance with Part 43. This total flight time shall include at least 100 hours of flight time as pilot in command, of which 5 hours shall have been flown within 60 days immediately preceding the date of application; 20 hours of cross-country flight time as pilot in command which shall include at least one flight of not less than 350 miles in the course of which 3 full-stop landings are made at different points; and 10 hours of night flight time of which 5 hours may be dual instruction time, and which shall include not less than 10 take-offs and 10 landings as pilot in command and as sole manipulator of the controls. The required 100 hours of pilot in command flight time may include the cross-country and night flight time required to be flown as pilot in command.

(1) An applicant who does not meet the above-mentioned night flight time requirements but does meet the other requirements of this section may be issued a pilot certificate with a commercial rating, and in that event the Administrator shall appropriately endorse such certificate to show that the holder thereof does not meet the night flight time requirement.[1] At such time as the holder of a certificate so endorsed submits reliable documentary evidence to the Administrator that he has met such night flight time requirement, he shall be reissued a certificate without such endorsement.

(2) Not more than 25% of the flight time flown as pilot in command may be had in glider aircraft provided the applicant holds a pilot certificate with a private or commercial glider rating.

ER–146 . . . . . Effective July 1, 1949

Sets forth recodified version of the Board's Economic Regulations.

ER–147 . . . . . Effective July 1, 1949

Establishes procedural regulations, places the former § 287.3 of the Economic Regulations in the Rules of Practice, and codifies the Rules of Practice within the newly established Procedural Regulations.

[1] Paragraph 2.4.1.3 (c) of Annex 1 (Personnel Licensing Standards) to the Convention on International Civil Aviation provides that an applicant for a commercial pilot certificate shall have 10 hours of night flight time as set forth in the above text. An individual holding a pilot certificate with a commercial rating who does not meet such requirement may not participate in international flight as a commercial pilot unless he receives permission from the State or States whose territory is entered. Further, pursuant to the provisions of Article 39 of the Convention on International Civil Aviation he shall have endorsed on his certificate the particulars in which he does not meet the International Standards. However, such endorsement on a commercial rating issued by the Administrator does not prohibit the holder thereof from exercising the privileges of a commercial pilot rating while flying in the United States.

ER–148 . . . . . Effective July 1, 1949

Repeals § 287.2 of the Economic Regulations, material of which will be placed in the Board's internal administrative regulations.

ER–149 . . . . . Effective June 30, 1949

Repeals § 224.2 of the **Economic Regulations Transportation Furnished Under Trade Agreements,** which became inoperative July 1, 1940, but which was never formally repealed.

SR–333 . . . . . Effective July 11, 1949

On April 28, 1949, the Board published in the Federal Register a notice of proposed rule making proposing to amend certain provisions in Parts 40 and 61 which were believed to be impeding initiation of scheduled "feeder line" operations in small aircraft. Comment received as a result of this publication was for the most part favorable to the proposal. However, it also became clear that, in order to establish operating conditions which would establish an appropriate level of safety for operations in small aircraft, amendment of Parts 40 and 61 to delete the requirements believed to be restrictive would be insufficient and that it would be preferable to consider the certification of scheduled operations in aircraft of under 12,500 pounds maximum take-off weight on an individual basis so that operating requirements might be tailored for the particular operation.

The Board so informed the Administrator and suggested that he authorize the initiation of operations by feeder lines in small aircraft in the light of a Board suggested set of requirements which varied to a considerable extent from those of Parts 40 and 61. The Administrator was further advised, however, that the Board did not consider its suggested requirements definitive but believed that, pending the development of appropriate general standards, each applicant's situation should be individually considered.

On the basis of this memorandum the Administrator has taken appropriate steps to authorize the initiation of such operations. However, we believe that it is desirable to differentiate clearly between the certificates issued to air carriers using conventional multiengine aircraft and those using aircraft under 12,500 pounds. The Board, therefore, believes it necessary to issue an appropriate Special Civil Air Regulation designating certificates issued under standards varying from Parts 40 and 61 as Air Carrier Operating Certificates for Local Areas, in order that scheduled operations by air carriers holding temporary certificates of public convenience and necessity may be authorized in aircraft under 12,500 pounds maximum certificated take-off weight.

It will be noted that certificates issued under the provisions of this regulation are limited to a duration of 1 year. It is intended that appropriate rules of a general nature will be developed before the certificates expire.

Since the public has already been afforded an opportunity to participate in the development of rules on this subject, and since the purpose of this regulation is to permit implementation on an individual basis of the proposals heretofore made in the notice of proposed rule making, it is unnecessary to comply further with notice and rule-making requirements, and since this regulation imposes no additional burden on any person it may be made effective without prior notice.

In consideration of the foregoing the Civil Aeronautics Board hereby makes and promulgates a Special Civil Air Regulation to read as follows:

The Administrator is hereby authorized to issue temporary air carrier operating certificates of 1-year duration to scheduled air carriers holding temporary certificates of public convenience and necessity, authorizing the use of aircraft under 12,500 pounds maximum certificated take-off weight, in accordance with such certification and operating standards as may be established by the Administrator. Such certificates shall be called Air Carrier Operating Certificates for Local Areas.

This regulation shall terminate August 1, 1950, unless sooner superseded or rescinded.

Amdt. 4a–2 . . . . . Effective August 1, 1949

Special Civil Air Regulation No. 397, as adopted by the Board on August 21, 1947, established certain values, for various types of transport category airplanes, to be used to compensate more properly for the effect of temperature variations on airplane performance. Due to the introduction of new types of airplanes since the adoption of the regulation, and more recent engineering data on some types for which values had already been established, it was proposed to amend the rule establishing appropriate specific values for each of the current types of transport category airplanes operated by the air carriers. Accordingly, an appropriate notice of proposed rule making was published in the Federal Register on March 30, 1949 (14 F. R. 1411).

Comments received as a result of this publication indicated that considerable thought and inquiry has been devoted to the general problem of temperature effect on airplane performance, and that the admittedly simplified form of the proposed rule giving specific values to be used for a single basic model might not reflect accurately the maximum take-off weight or runway length necessary for safe operation for some variations of the basic type of airplane currently being manufactured or used by the air carriers. For this reason, the Board believes that it is desirable to revert to the general practice of promulgating regulations which establish a standard of safety, allowing their implementation in individual cases by the industry and the Administration. The Board, therefore, is adopting amendments to the various parts of the Civil Air Regulations which incorporate the formula used in establishing the current specific values set forth in Special Civil Air Regulation No. 397. The amendments require the entry of the appropriate values for each airplane in the Airplane Flight Manual, and provide that all transport category airplanes shall be operated in accordance with the values so entered.

The question of appropriate regulatory requirements for temperature effect on airplane performance will continue to be studied. Further consideration will be given to these regulations in the light of possible international developments.

In consideration of the foregoing the Civil Aeronautics Board amends Part 4a:

By adding a new § 4a.75322–T to read as follows:

4a.75322–T Temperature accountability. Operating correction factors for take-off weight and take-off distance shall be determined to account for temperatures above and below standard, and when approved by the Administrator shall be included in the Airplane Flight Manual. These factors shall be obtained as set forth in paragraphs (a) and (b) of this section.

(a) For any specific airplane type, the average full temperature accountability shall be computed for the range of weights of the airplane, altitudes above sea level, and ambient temperatures required by the expected operating conditions. Account shall be taken of the temperature effect on both the aerodynamic characteristics of the airplane and on the engine power. The full temperature accountability shall be expressed per degree of temperature in terms of a weight correction, a take-off distance correction, and a change, if any, in the critical engine failure speed, V_1.

(b) The operating correction factors for the airplane weight and take-off distance shall be at least one-half of the full accountability values. The value of V_1 shall be further corrected by the average amount necessary to assure that the airplane can stop within the runway length at the ambient temperature; except that the corrected value of V_1 shall not be less than a minimum at which the airplane can be controlled with the critical engine inoperative.

Amdt. 4b–12 . . . . . Effective August 1, 1949

Amends Part 4b:

By adding a new § 4b.1223 to read as follows:

4b.1223 Temperature accountability. Operating correction factors for take-off weight and take-off distance shall be determined to account for temperatures above and below standard, and when approved by the Administrator shall be included in the Airplane Flight Manual. These factors shall be obtained as set forth in paragraphs (a) and (b) of this section.

(a) For any specific airplane type, the average full temperature accountability shall be computed for the range of weights of the airplane, altitudes above sea level, and ambient temperatures required by the expected operating conditions. Account shall be taken of the temperature effect on both the aerodynamic characteristics of the airplane and on the engine power. The full temperature accountability shall be expressed per degree of temperature in terms of a weight correction, a take-off distance correction, and a change, if any, in the critical engine failure speed, V_1.

(b) The operating correction factors for the airplane weight and take-off distance shall be at least one-half of the full accountability values. The value of V_1 shall be further corrected by the average amount necessary to assure that the airplane can stop within the runway length at the ambient temperature; except that the corrected value of V_1 shall not be less than a minimum at which the airplane can be controlled with the critical engine inoperative.

(**Note:** The explanatory material appearing with Amdt. 4a–2 also applies to the above amendment.)

Amdt. 41–4 . . . . . Effective August 1, 1949

Amends Part 41:

By adding a new § 41.270 (d) to read as follows:

41.270 (d) No airplane shall be taken off at a weight which exceeds the allowable weight for the runway being used as determined in accordance with the take-off runway limitations of the transport category operating rules, after taking into account the temperature operating correction factors required by §§ 4a.75322–T or 4b.1223, and set forth in the Airplane Flight Manual for the airplane.

(**Note:** The explanatory material appearing with Amdt. 4a–2 also applies to the above amendment.)

Amdt. 42–1 . . . . . Effective August 1, 1949

Amends Part 42:

By adding a new § 42.70 (c) to read as follows:

42.70 (c) No airplane shall be taken off at a weight which exceeds the allowable weight for the runway being used as determined in accordance with the take-off runway limitations of the transport category operating rules, after taking into account the temperature operating correction factors required by §§ 4a.75322–T or 4b.1223, and set forth in the Airplane Flight Manual for the airplane.

(**Note:** The explanatory material appearing with Amdt. 4a–2 also applies to the above amendment.)

Amdt. 61–5 . . . . . Effective August 1, 1949

Rescinds Special Civil Air Regulation No. 397, and amends Part 61:

By adding a new § 61.7121 (d) to read as follows:

61.7121 (d) No airplane shall be taken off at a weight which exceeds the allowable weight for the runway being used as determined in accordance with the take-off runway limitations of the transport category operating rules, after taking into account the temperature operating correction factors required by §§ 4a.75322–T or 4b.1223, and set forth in the Airplane Flight Manual for the airplane.

(**Note:** The explanatory material appearing with Amdt. 4a–2 also applies to the above amendment.)

Procedural Regulation 1 . . Effective August 25, 1949

(PR–1 is the first of a new series titled Procedural Regulations. The rules of practice formerly in Part 285 of the Economic Regulations have been included in the Procedural Regulations. The Procedural Regulations will also contain the Rules of Practice in Safety Proceedings, as well as any other material which may be added from time to time dealing with Board procedure and practice which is required to be published in the codified parts of the Federal Register.)

The first sentence of § 302.15 (c) (2) provides that a complaint requesting suspension of any tariff filed under the Act ordinarily will not be considered unless filed with the Board at least 10 days before the effective date of the tariff. This amendment changes the 10-day requirement to 15 days.

Safety Orders

S–246 terminates proceedings against Charles Marthens (May 13).

S–247 remands proceedings against F. N. Opel, Jr., to Examiner for such additional action as the circumstances may require (May 19).

S–248 modifies order in proceedings against John Piburn to permit issuance of pilot certificate after May 30, 1949 (May 20).

S–249 authorizes Administrator to issue limited airworthiness certificates to permit flight training for 20 Pakistan Air Force students in North American P–51 type airplanes (June 24).

S-250 authorizes issuance of restricted pilot certificate to one having diabetes where public safety will not be endangered (June 28).

S-251 revokes student pilot certificate of Marvin Kohn, for piloting an aircraft on cross-country flights for which he was not authorized and piloting an aircraft when it was not in airworthy condition (July 1).

S-252 revokes pilot certificates of John Doe on the grounds that he does not meet the physical standards required (July 8).

S-253 revokes commercial pilot certificate of John Doe (July 12).

S-254 orders third-class medical certificate issued to Robert H. Langner, notwithstanding the fact that he has a condition of the heart known as patent ductus arteriosus, which was found not to interfere with his safe piloting of an aircraft, the certificate to be issued for a period of 1 year, provided he is found otherwise physically qualified (July 15).

S-255 suspends private pilot certificate of Darrell Schroepfer for 60 days and thereafter unless and until he passes a written examination on the portions of part 60 pertaining to general and visual flight rules, for failing to conform to the traffic pattern following his take-off (July 15).

Revocations

Student pilot certificate of Alton Colbenson, White Earth, N. Dak., revoked, effective May 27, 1949, for carrying a passenger on a flight which ended in a crash in which he and his passenger were injured and the aircraft demolished.

Student pilot certificate of William Pratt Gowdey, Seminole, Tex., revoked, effective May 27, 1949, for carrying a passenger, for piloting an aircraft while he and his passenger were under the influence of intoxicating liquor, and for piloting an aircraft under visual flight rules when the visability was less than a mile.

Ground instructor certificate of Edward Van Knotts, Prichard, Ala., revoked for receiving outside assistance while taking a control tower operator's examination.

Student pilot certificate of Elton Hainline, Macomb, Ill., revoked, effective May 27, 1949, for carrying a passenger. While attempting to take off from a bean field, he stalled and crashed. The passenger was seriously injured and the aircraft badly damaged.

Private pilot certificate of Andrew Nelson, Bay Shore, Long Island, N. Y., revoked, effective June 9, 1949, for low flying and acrobatic flight over a group of persons at Cherry Grove Beach, Long Island.

Private pilot certificate of John William Knowles, Lynchburg, Va., revoked, effective June 10, 1949, for low and acrobatic flight in the vicinity of and over Gladys, Va. He dived at a building, struck a power line, and crashed near a group of children. The Examiner found that possible injury or death to these children was averted only because their mother saw the aircraft strike the power line and succeeded in removing the children from the area before the aircraft struck.

Student pilot certificate of William Henry Mallory, Hanover Court House, Va., revoked, effective June 30, 1949, for carrying a passenger and for failing to report an accident to the Civil Aeronautics Board. While flying near Richlands, Va., he encountered fog conditions and crashed in attempting to make an emergency landing in a field.

Private pilot certificate of J. A. Cirlot, Jr., Moss Point, Miss., revoked, effective July 8, 1949, for low flying over a congested area in the immediate vicinity of the Moss Point High School. While circling the area a second time, he lost control of the aircraft he was piloting and crashed into the corner of a house across the street from the school building.

Student pilot certificate of Charles D. German, Jr., Fort Lauderdale, Fla., revoked, effective July 8, 1949, for low flying over a congested area and for failing to have his pilot certificate in his possession.

Private pilot certificate of James R. Jackson, Alexander City, Ala., revoked, effective July 9, 1949, for low flights at house-top level over a congested area and for failing to conform to the traffic pattern at Russell Field, Alexander City.

Commercial pilot certificate of Frank J. (Bud) Fleck, Springfield, Ill., for low flying and doing acrobatics over an open-air assembly of persons and for doing acrobatics with a passenger, when neither he nor his passenger had parachutes.

Private pilot certificate of Homer A. Sutter, East Carondelet, Ill., revoked, effective June 10, 1949, for piloting an aircraft at low altitude over a congested area.

Private pilot certificate of Emry Joseph Landry, New Orleans, La., revoked, effective June 19, 1949, for low flying over a congested area of New Orleans, for piloting an aircraft between sunset and sunrise when the aircraft was not equipped with position lights, and for failure to have a valid medical certificate in his possession.

Student pilot certificate of Audrey Dale Peterson, San Antonio, Tex., revoked, effective June 24, 1949, for carrying a passenger, for low flying over a congested area, and for performing a series of dives to an altitude of approximately 50 feet above the ground while within the traffic pattern of Hurt Airport, San Antonio, Tex.

Student pilot certificate of Iashmael Worth Boles, Alamogordo, N. Mex., revoked, effective June 24, 1949, for piloting an aircraft when the aircraft was not registered in the name of the owner, for piloting an aircraft which had not been inspected within the preceding 12 months, and for piloting an aircraft other than the type, class, and model which had been endorsed on his certificate. He took of on a pleasure flight late in the afternoon. After a short flight he returned to the vicinity of the airport, which was unlighted, and not being able to locate the airport, landed in the municipal water reservoir, near the airport. The aircraft sank to the bottom of the lake but he swam to shore.

Private pilot certificate of John W. Wallace, Las Cruces, N. Mex., revoked, for operating an aircraft when a valid airworthiness certificate was not carried in the aircraft, for operating an aircraft which had not been inspected within the preceding 12 months, and for operating an aircraft which was not equipped with certified safety belts for all passengers. The flight leading to the complaint terminated in a crash in which the pilot's wife was killed and a friend seriously injured. The pilot, who had an adequate safety belt, was injured but not so seriously.

Private pilot certificate of Peter Gifford, Spokane, Wash., revoked, effective March 31, 1949, for piloting an aircraft at a low altitude over and above automobiles on a highway, for making two dives at a freight train, for failure to conform to the traffic pattern at Weeks Field, Coeur d'Alene, Idaho, and for operating an aircraft during the hours of darkness without displaying proper position lights.

Private pilot certificate of Wayne K. Yates, Overton, Nev., revoked, effective July 3, 1949, for low flying above automobiles on a highway and for operating an aircraft while under the influence of intoxicating liquor.

Student pilot certificate of Roland D. Graham, Williams Field, Chandler, Ariz., revoked, effective June 25, 1949, for performing acrobatic maneuvers for approximately 30 minutes over and in the immediate vicinity of an auto trailer court in Phoenix, Ariz.

Suspensions

Private pilot certificate of Charles C. Stanley, Camp Carson, Colo., suspended until June 16, 1949, for low flying and performing acrobatics over a congested area of Denver.

Private pilot certificate of Keith D. Clark, Eaton, Colo., suspended 60 days from May 13, 1949, for low flying over a highway. He struck a power line while attempting to get back to the airport in a severe hail and rain storm.

Private pilot certificate of Bernard J. Kline, Hansen, Nebr., suspended 60 days from May 27, 1949, for flying an aircraft which had not been given an annual inspection, as prescribed by the Administrator, within the previous 12 months.

Student pilot certificate of Eugene V. Bullock, Cozad, Nebr., suspended until December 3, 1949. On November 1, 1948, the CAB suspended his certificate for 6 months, but he failed to surrender the certificate.

Private pilot certificate of John Harold Boysen, Sioux Falls, S. Dak., suspended 60 days from May 13, 1949, for low flying over farm buildings and for failure to conform to the traffic pattern at the Municipal Airport, Britton, S. Dak.

Private pilot certificate of Willis Ziese, Leroy, Ind., suspended for 6 months from May 29, 1949, for low flying over farm buildings.

Commercial pilot certificate of Ivan L. Battern, Millville, N. J., suspended 30 days from June 20, 1949, or a $100 civil penalty to be paid, for flying in close proximity to other aircraft at Millville Municipal Airport, so as to create a collision hazard and for engaging in acrobatics at an altitude of less than 1,500 feet while carrying a passenger.

Private pilot certificate of Charles L. Gontz, Shippensburg, Pa., suspended 6 months from June 30, 1949, for low flying and engaging in acrobatic flight over a congested area. While circling over the home of a friend at low altitude, he struck an electric power line and crashed.

Private pilot certificate of William Hoyt Collier, Toccoa, Ga., suspended 3 months from July 1, 1949, for performing acrobatic maneuvers while carrying a passenger when all occupants of the plane were not equipped with parachutes.

Private pilot certificate of Julian W. Ayer, Savannah, Ga., suspended 4 months from July 9, 1949, for operating an aircraft while carrying a passenger when he did not have a valid pilot certificate in his possession, for operating an aircraft contrary to air traffic control instructions, for failing to conform to the traffic pattern at Hunter Field, and for performing acrobatic maneuvers within a control zone.

Private pilot certificate of Harry Lee Thomas, Hillsboro, N. C., suspended 9 months from July 8, 1949, for low flying and for operating an aircraft in a careless and reckless manner, so as to cause a crash.

Private pilot certificate of Eudow Bruce Hamm, Miami, Fla., suspended 3 months from July 9, 1949, for operating an aircraft for hire, for operating an aircraft when he did not have a valid pilot and medical certificate in his possession, and for operating an aircraft when the registration and airworthiness certificates were not in the plane.

Private pilot certificate of Daniel J. Terlaak, Lakewood, Ohio, suspended 9 months from July 2, 1949, for low flying over a congested area.

Private pilot certificate of Ralph G. Davenport, Toledo, Ohio, suspended 6 months from June 25, 1949, for low flying over a group of people at a swimming pool.

Private pilot certificate of Glenn Reinert, Hudson, Wis., suspended 6 months from June 26, 1949, for low flying over a congested area.

Commercial pilot certificate of Clifford F. Brossart, Oak Lawn, Ill., suspended 6 months from June 25, 1949, for low flying, performing acrobatics over a congested area, and engaging in acrobatic flight when his passenger was not equipped with an approved parachute.

Private pilot certificate of Thomas Malcom Stewart, Casey, Ill., suspended 4 months from June 25, 1949, for low flying, ending in a crash.

Private pilot certificate of Robert Baker Kersh, Galion, Ohio, suspended 60 days from June 28, 1949, for low flying over buildings of Ohio State University and for operating an aircraft when he did not have in the aircraft registration and airworthiness certificates.

Private pilot certificate of Edmund P. Gaines, Jr., Chicago, Ill., suspended 30 days from June 10, 1949, for piloting an aircraft at the Dayton Municipal Airport, Vandalia, Ohio, when the flight visibility was less than 1 mile and for entering the control zone at this airport without prior approval of air traffic control.

Private pilot certificate of Lewis Gregory Tiffany, Jr., Minneapolis, Minn. suspended 60 days from June 10, 1949, for low flying over Baldwin, Wis.

Private pilot certificate of Marion Williams, Grayville, Ill., suspended 9 months from June 12, 1949, for low flying and performing acrobatics over a congested area.

Private pilot certificate of William Ernest Person, Jr., Baton Rouge, La., suspended 4 months from June 23, 1949, for failing to utilize the full length of the runway in attempting a take-off from the Municipal Airport, Hot Springs, Ark., leading to a crash a short distance beyond the end of the runway.

Student pilot certificate of Leroy Thomas, Dallas, Tex., suspended 6 months, for failing to surrender his pilot certificate when called upon to do so after it had been suspended by an order of the Board.

Commercial pilot certificate of Howard Mathers, Hartington, Nebr., suspended 30 days from June 22, 1949, for permitting a private pilot who did not possess a flight instructor rating to serve in the capacity of flight instructor.

Private pilot certificate of Herbert J. Henry, Fort Riley, Kans., suspended 90 days from May 31, 1949, for low flying over Rock Rapids, Iowa.

Commercial pilot certificate of Romaine Nimon, Lake City, Minn., suspended 60 days from June 9, 1949, for creating a collision hazard by failing to give the right of way to another plane which was landing at Municipal Airport, Holbridge, S. Dak.

Civil Aviation Highlights

	1949	1948
Airports recorded with CAA, *July 1*	6,443	6,210
By type:[1]		
Commercial	2,758	3,019
Municipal	2,161	1,963
CAA intermediate	151	165
Military	390	421
All others	983	642
Civil airports by class:		
Total	6,053	5,789
Class I and under	4,013	3,901
Class II	995	901
Class III	475	440
Class IV	364	351
Class V	133	123
Class VI and over	73	73
Total U. S. civil aircraft, *July 1*	92,658	97,745
Scheduled air carrier aircraft, *July 1*	1,061	1,023
Civil aircraft production, *May:*		
Total	474	812
1- and 2-place models	145	337
3-, 4-, and 5-place models	316	441
Over 5-place models	13	35
Certificates approved, *May:*		
Student pilots	4,708	14,839
Private pilots	2,742	7,929
Commercial pilots	671	764
Airline transport pilots	97	122
Mechanics (original certificates)	776	764
Ground instructors (original certificates)	144	191
Flight instructor ratings	230	423
Flight navigators	2	–
Flight engineers	20	–
Flight radio operators	8	–
Instrument ratings	153	146
Control tower operators	169	101
Dispatchers	52	90
Traffic control activity, *May:*		
Aircraft operations, CAA airport towers	1,664,978	1,916,527
Fix postings, CAA airway centers	844,275	857,294

Airport Operations

Washington National, *June:*		
Scheduled air carrier:		
Passengers departing	72,648	59,390
Passengers arriving	71,056	57,983
Aircraft arrivals and departures	11,869	10,137
Other aircraft arrivals and departures	5,208	4,018
San Francisco Municipal, *May:*		
Scheduled air carrier:		
Passengers departing	45,800	39,454
Passengers arriving	45,824	38,535
Aircraft arrivals and departures	6,689	6,552
Other aircraft arrivals and departures	4,864	5,485
Oakland Municipal, *May:*		
Scheduled air carrier:		
Passengers departing	[2]	5,665
Passengers arriving	[2]	4,749
Aircraft arrivals and departures	4,551	4,115
Other aircraft arrivals and departures	17,504	18,107
Los Angeles Municipal, *May:*		
Scheduled air carrier:		
Passengers departing	52,118	[2]
Passengers arriving	53,523	[2]
Aircraft arrivals and departures	8,249	7,398
Other aircraft arrivals and departures	7,002	5,902

[1] Airport type definitions: Commercial—Public use and public services, privately owned and operated. Municipal—Public use and public services, municipally owned and/or operated. CAA Intermediate—Public emergency use, no services, CAA operated. Military—Public restricted, military operated. All others—(a) Public emergency use only, no public services, privately owned for personal use; (b) Public emergency use only, no public services, Government-owned Forest Service, etc.

[2] Not available.

Commercial pilot certificate of Andrew G. Clark, Kansas City, Mo., suspended 60 days from June 7, 1949, for flying at tree-top levels and performing acrobatics over a congested area.

Private pilot certificate of Earl L. Jason, Wichita, Kans., suspended 60 days from May 31, 1949, for low flying and executing a dive over a congested area of Wichita.

Commercial pilot certificate of Mario P. Caffi, Fairbanks, Alaska, suspended 15 days from June 24, 1949, for piloting an aircraft in the vicinity of Big Delta, Alaska, at an altitude of less than 1,000 feet above the highest obstacle within a horizontal distance of 5 miles from the center of the course intended to be flown, and for permitting the aircraft to fly into a ground obstruction in the vicinity of Big Delta.

Private pilot certificate of Lloyd Keiser, Petaluma, Calif., suspended 60 days from June 25, 1949, for performing acrobatics at an altitude of less than 1,500 feet above the surface with a passenger, for failure to have pilot and medical certificates in his possession and for failure to carry parachutes while performing acrobatic maneuvers with a passenger aboard.

Private pilot certificate of Arthur Rollin Nersasian, East Los Angeles, Calif., suspended 6 months from July 3, 1949, for low flying and making dives over Delpart Field, Norwalk, Calif.

Private pilot certificate of Robert Dean Wilson, Tucson, Ariz., suspended 6 months from July 3, 1949, for piloting an aircraft in a careless and reckless manner. He flew so low over a herd of cattle and other animals grazing in a field near Williams, Ariz., that the wing of the airplane struck an elk, as a result of which the plane crashed and burned.

Private pilot certificate of Frank Briggs, Ventura, Calif., suspended 6 months from June 25, 1949, for operating an aircraft in formation flight with another aircraft without prearrangement,

(*Continued on next page*)

CAB Official Actions

(*Continued from page 93*)

and for piloting an aircraft close to and into clouds while on a VFR flight.

Student pilot certificate of Clair Hershell Mull, Young, Ariz., suspended 60 days from June 25, 1949, for carrying a passenger, his wife, to Phoenix to keep an appointment with a dentist.

Airline Orders

E-2854 fixes a temporary mail rate for Pan American over its Latin American routes (May 24).

E-2855 orders investigation of, and suspends for 90 days, certain charges, rules, and regulations proposed by the Flying Tiger Line (May 24).

E-2856 consolidates the applications of Val-Air Lines and Trans-Texas Airways, Docket Nos. 3645, 3646, and 3367, for certificates under § 401 of the Act; severs a portion of Trans-Texas' application requesting a temporary exemption pending he Board's final decision thereon, and assigns it to Docket No. 3817 (May 24).

E-2857 grants certain parties leave to intervene in the matter of the applications of Val-Air Lines and Trans-Texas Airways for certificates under § 401 of the Act (May 24).

E-2858 dismisses applications of Air Express International, Docket Nos. 2552 and 2553, in the *Freight Forwarder* case (May 24).

E-2859 grants Transocean Air Lines temporary exemption from the provisions of § 401 (a) of the Act and § 292.1 of the Economic Regulations, so as to permit one round trip flight carrying persons between Honolulu, T. H., and Bora-Bora, Society Islands, provided the trip be completed on or before August 1, 1949 (May 25).

E-2860 orders that the portion of Transocean's application in Docket No. 3724 requesting authority to operate between the United States, Europe, and the Middle East be severed from Docket No. 3724 and assigned Docket No. 3818 (May 23).

E-2861 amends order serial No. E-2211 so as to permit Milton Gilbert and Edward Jenkins, d. b. a. Economy Airways Company, to issue 50 shares of no par, common stock to Charles Fuchs (May 25).

E-2862 opinion and order amend temporary mail rates of American Air Lines, TWA, and United (May 25).

E-2863 grants R. S. Enslow, d. b. a. the Condor Line, exemption from the provisions of § 292.1 of the Economic Regulations so as to permit the transfer of Letter of Registration No. 1455 to the Unis Export Company (May 25).

E-2864 approves agreement between Chicago and Southern and Eastern relating to fork lift equipment (May 26).

E-2865 approves agreement between United and Empire relating to payments for installation and maintenance of public address system (May 26).

E-2866 approves cancellation of agreement between Pennsylvania-Central Airlines (now Capital Airlines) and American relating to sublease of space (May 26).

E-2867 approves cancellation of agreement between American Airlines and Tucson Warehouse and Transfer Company, relating to pickup and delivery service for American at Tucson, Ariz. (May 26).

E-2868 approves agreement between American Airlines and Maritime Central Airways relating to tickets and exchange orders (May 26).

E-2869 approves cancellation of agreement between American and Western relating to cancellation of agreement to share office space in Los Angeles Airport (May 26).

E-2870 approves agreement between TWA and Mid-Continent relating to service charges for installation and monthly charges for weather teletypewriter circuit (May 26).

E-2871 approves agreement between Western, United, and Aeronautical Radio relating to radio communication service (May 26).

E-2872 approves agreement between Capital and Eastern relating to service charges for gasoline (May 26).

E-2873 approves agreement between Delta and Pioneer relating to emergency maintenance service (May 26).

E-2874 approves agreement between Northwest and Wisconsin Central relating to emergency maintenance facilities (May 26).

E-2875 approves agreement between American and Continental relating to fueling service at Midland, Tex. (May 26).

E-2876 approves agreement between Continental and Braniff relating to hangar storage space (May 26).

E-2877 approves agreement between American and Delta relating to fork lift and conveyor equipment at both Fort Worth and Cincinnati airfields (May 26).

E-2878 dismisses proceedings in the matter of the investigation and suspension of fares and charges proposed by Wisconsin Central (May 26).

E-2879 dismisses proceedings in the matter of the investigation and suspension of a proposed rule on behalf of Braniff, Chicago and Southern, Delta, Eastern, and Mid-Continent (May 26).

E-2880 dismisses proceedings in the matter of the investigation and suspension of fares and rules proposed by National (May 26).

E-2881 dismisses proceedings in the matter of the investigation and suspension of fares, rules, and regulations proposed by Mid-Continent and TWA (May 26).

E-2882 dismisses proceedings in the matter of the investigation and suspension of rates and charges in the Air Freight Rate Investigation (May 26).

E-2883 dismisses proceedings in the matter of the investigation and suspension of fares, rules, and regulations proposed by Northwest Airlines (May 28).

E-2884 authorizes Southern Airways to suspend service temporarily at Rock Hill, S. C., Orangeburg, S. C., and Tupelo, Miss., until an airport suitable for scheduled air carrier operations is available, or until January 31, 1950, whichever shall first occur (May 26).

E-2885 grants the Juneau Chamber of Commerce leave to intervene in the *United States-Alaska Service* case (May 26).

E-2886 grants Coastal Air Lines temporary exemption from the provisions of § 401 of the Act and § 292.1 of the Economic Regulations so as to permit the carrier to engage in one passenger flight from New York, N. Y., to Lydda, Israel, on behalf of Hechalutz (May 26).

E-2887 approves agreement between Delta and Air France relating to tickets and exchange orders (May 27).

E-2888 approves agreements between Pacific Northern Airlines, Alaska Coastal Airlines, and Ellis Air Lines relating to interline traffic (May 27).

Pilots Warned New Drug May Cause Drowsiness

Pilots are being advised by the Civil Aeronautics Administration that use of the new drug, dramamine, as a cure or preventive for air sickness may cause undesirable effects.

Results of tests of the drug show that drowsiness is a common "side reaction" to taking dramamine, Mr. Rentzel said, and that slight dizziness, chills and detached sensations, loss of balance and difficulty of focusing eyes also occur occasionally. The manufacturer of the drug previously has issued a statement advising that side reactions may occur in an occasional individual. CAA officials believe that while these effects would not be harmful to passengers, they could prove hazardous to a pilot flying a plane.

Twenty-two CAA employees were tested over a period of 6 days. They were given identical appearing capsules containing either phenobarbital, which is a mild sedative, harmless milk sugar, or 100 milligrams of dramamine. They received doses each morning without knowing what the capsules contained; they continued with their routine office duties, and at 3:30 each afternoon wrote out their reactions. In 66 percent of the cases where dramamine was taken side reactions were reported. None of the reactions was severe, but the drowsiness and other possible side effects showed that the drug might affect the alertness of the pilot, and endanger safety.

Dramamine has been studied at Johns Hopkins University in Baltimore as a remedy and preventive for seasickness; at Randolph Field, Tex., for its effect on air passengers; and several airlines have been studying it as a cure and preventive of airsickness in passengers. While the CAA is interested also in the comfort of air passengers and is watching results of the tests, its primary concern is for safety in flight, and this prompted its study of the side effects of dramamine as related to pilots.

Airport Aid Program Sponsors Get 34 Grant Offers in May

Thirty-four more grant offers for airport construction or development were made under the Federal Aid Airport Program during the month of May, D. W. Rentzel, Administrator of Civil Aeronautics, announced.

The grants during the month involved $3,531,532 in Federal funds. Grant offers to date number 784 for work at 637 locations and represent $78,773,403 in Federal funds. Of the grant offers made during May, four were for class I airports, seven for class II airports, seven for class III airports and 16 for class IV and larger fields.

Of the total grant offers to date, 179 have been for class I airports, 181 for class II airports, 194 for class III airports, 329 for class IV and larger airports, and one for a seaplane base.

Largest grant during the month was one of $730,000 for the Broome County Airport, Binghamton, N. Y., for paving the northwest-southeast and east-west runways, taxiways, apron, access road, auto parking area, walks; the installation of a water and sanitary system; fencing, turfing and numbering and marking of runways. A previous grant offer of $1,107,500 had been made on the same project.

Latest tabulation on the over-all progress of the program shows 284 projects 100 percent completed at 254 locations, 188 between 76 and 99 percent completed, 45 between 51 and 75 percent completed, 45 between 26 and 50 percent completed and 69 between 1 and 25 percent completed.

CAA Advisory Group To Assist With Study Of Airport Problems

(*Continued from page 85*)

Washington National Airport. Region Two: Drennon Albrecht, manager of the Memphis, Tenn., airport. Region Three: Carl J. Amundson, manager of the Grand Forks, N. Dak., municipal airport. Region Four: Merle Huston, manager of the Harlingen, Tex., airport. Region Five: Walter Betsworth, manager of the Waterloo, Iowa, airport. Region Six: Clarence Young, former CAB member, now director of aviation, Los Angeles, Calif. Region Seven: J. P. Doyle, manager of the Portland, Oreg., airport.

Members at Large: A. B. Curry, director, Dade County Port Authority, Miami, Fla., and vice president, Airport Operators Council. Donald Martin, manager of the Wilmington, Del., airport and president of the American Airport Executive Association. John Berry, manager of the Cleveland, Ohio, municipal airport. Louis Inwood, director of aviation, Kansas City, Mo. Dr. James E. Mooney, director of the Bureau of Aeronautics, Pinellas County, St. Petersburg, Fla.

The first meeting of the committee was scheduled in Washington on September 12. Other meetings will be held semi-annually at locations determined by the committee.

The purpose of the committee, according to the general CAA order establishing it, is to "advise the CAA with respect to industry problems and CAA programs devoted to the perpetuation and effective management, operation and maintenance of airports."

"It is my sincere opinion," declared the Administrator, "that the creation of such a committee can contribute much valuable experience and a first-hand knowledge of the various problems which today confront this basic aviation industry, and, as a result, will effectively aid in promoting the objectives as set forth in the order creating it."

To Provide Contact.—The committee is expected to "provide a point of contact and liaison between the Administrator and representatives of the airport industry and others connected with airport management, operation, and maintenance" and achieve the following objectives:

(a) To provide adequate presentation of airport problems by qualified industry representatives and others intimately familiar with such matters.

(b) To provide representative views and counsel of the aviation industry on regulations and external procedures relating to airport development.

(c) To advise the CAA in evaluating needs which should be given priority in the administration of the various Federal Acts relating to airport development and maintenance.

(d) To advise the CAA in its efforts toward perpetuation of existing airports, which is equally as important as the construction of new airports and depends upon proper and adequate airport management, operation, and maintenance practices.

(e) To advise the CAA in developing plans and programs for providing necessary Federal advisory services on all phases of airport management, operations and maintenance with the minimum number of Federal personnel.

April Mileage Figures Announced

The 16 domestic trunk airlines flew 99.29 percent of their scheduled mileage in April of this year, figures announced by the Civil Aeronautics Board show. Of the 35.86 average available seats per mile, 61.75 percent were occupied by revenue passengers in April of this year, as compared with 31.60 average available seats, of which 61.25 percent were occupied by revenue passengers, for April 1948.

CAA to Assist in Plan To Warn of Tidal Waves

As a result of coordination with the Coast and Geodetic Survey and the military services, the Civil Aeronautics Administration has made available the use of its Pacific and Alaskan communications facilities in a system for the detection and warning of seismic sea waves in the Pacific Ocean area.

Seismic sea waves are commonly known as tidal waves resulting from undersea earthquakes. These waves are relatively low in height and of great length and are not easily detected by aircraft and ships at sea or by normal eyesight observation. They may attain speeds of over 400 miles per hour and cause terrific damage when they roll up unexpectedly on islands or the shore line of mainlands. Special instruments employed by strategically located tide gauge stations are designed to screen the normal rise and fall of sea water and detect a sustained rise which may be a sea wave.

The Honolulu magnetic observatory is the focal point of the detection and warning system. When seismic disturbances are observed on the instruments of the observatories at Fairbanks and Sitka, Alaska; Tucson, Ariz., and Berkeley, Calif., this information is forwarded immediately to the observatory at Honolulu where an analysis is made to determine the epicenter of the disturbance and the possibility of seismic sea waves. Tide gauge stations in the Alaska area and on islands throughout the Pacific Ocean area are alerted to make continuous observation of their instruments. Once a sea wave is detected, all areas are warned to prepare for the possible consequences.

The CAA maintains continuous communications channels between Anchorage, Alaska, and Honolulu, and between Honolulu, Wake Island, Midway Island, Canton Island and Palmyra Island, which are now available for this detection and warning service. These facilities, together with those operated by the military services, form an integrated network by which the inhabitants of the Pacific islands may be warned and protected from the disastrous results of sea waves such as that experienced at Honolulu a few years ago. Although undersea earthquakes and seismic sea waves do not occur frequently, a system of rapid and reliable communications is vital to the protection of life and property when they do occur.

Economic Regulations Recodified by Board

The Civil Aeronautics Board announced recently that it had completed recodification of its Economic Regulations, effective July 1, 1949, in accordance with the provisions of the Code of Federal Regulations as prescribed by the administrative committee of the Federal Register.

The recodification changes the numerical designations of each of the Board's Economic Regulations, and incorporates the editorial changes necessary to correct all reference to the old code numbers. The form and content of the Regulations themselves are not affected by the codification changes.

The regulations will be known as subchapter B–Economic Regulations. Subchapter A is being reserved for Civil Air Regulations.

The Board has arranged for printing of the complete text of the recodified regulations at the Government Printing Office, and copies should be available for purchase there in a few weeks time. In the meantime interested parties may obtain the complete text of of the regulations, and a list of reference numbers of the new and old code designations by purchasing the June 29 issue of the Federal Register from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 15 cents.

Trunk Airlines Report First Quarter Revenues

The Civil Aeronautics Board announced last month that for the first quarter of 1949 reports filed by the 16 domestic trunk airlines indicate a net loss from operations of $—4,896,606.13 as compared with net operating loss of $—13,846,086.25 for the same period in 1948.

Additional figures covering operating revenues and expenses for the first quarter ending March 31, 1949, and March 31, 1948, follow:

	3 months ending—	
	March 31, 1949	March 31, 1948
Revenue miles flown	73, 139, 458	69, 451, 406
Operating revenue		
Passenger	$79, 851, 039. 25	$65, 595, 529. 04
Mail	11, 130, 488. 88	6, 646, 777. 67
Express	2, 063, 690. 49	2, 439, 382. 52
Freight	3, 919, 191. 57	2, 642, 293. 82
All other	1, 898, 639. 75	1. 333, 601. 92
Total	$98, 863, 049. 94	$78, 657, 584. 97
Operating expenses	103, 759, 656. 07	92, 503, 671. 22
Net operating income	−4, 896, 606. 13	−13, 846, 086. 25

For the year ending March 31, 1949, the net operating income for the 16 domestic trunk airlines was $11,024,593.94 as compared with the net operating loss of $—15,996,423.62 for the year ending March 31, 1948. Additional figures covering operating revenues and expenses for the years ending March 31, 1949, and March 31, 1948, follow:

	12 months ending—	
	March 31, 1949	March 31, 1948
Revenue miles flown	953, 713, 796	935, 321, 994
Operating revenue:		
Passenger	$348, 991, 108. 07	$311, 490, 866. 76
Mail	52, 321, 242. 31	24, 387, 071. 06
Express	9, 588, 347. 24	10, 337, 211. 41
Freight	15, 101, 426. 87	9, 476, 389. 26
All other	7, 556, 227. 22	6, 665, 731. 13
Total	433, 558, 351. 71	362, 357, 269. 62
Operating expenses	422, 533, 757. 77	378, 353, 693. 24
Net operating income	11, 024, 593. 94	−15, 996, 423. 62

Capital Authorized to Improve Northern Michigan Service

The Civil Aeronautics Board recently amended the certificate of public convenience and necessity of Capital Airlines for Route 14, with terminal points at Minneapolis-St. Paul and Norfolk, Va., via various intermediate points including Chicago, Pittsburgh and Washington, to include Saginaw-Bay City, Mich., as an intermediate point between Flint and Lansing, Mich., to permit nonstop schedules between Chicago on the one hand and Lansing, Flint and Saginaw-Bay City on the other hand, and to authorize permanent air mail service to Flint, Mich., to which Capital has given air mail service through a temporary exemption for several years.

Capital's certificate for Route 41, between Sault Ste. Marie and the terminal points Grand Rapids and Detroit was redescribed and amended to include Lansing as an intermediate point between Grand Rapids and Saginaw-Bay City, to include Muskegon as an intermediate point between Grand Rapids and Chicago, and between Grand Rapids and Milwaukee. The Board also authorized the designation of Chicago and Milwaukee as terminal points beyond Muskegon and eliminated seasonal restrictions on operations between Traverse City and Grand Rapids.

These changes in Capital's certificates will give Saginaw-Bay City more direct service to Chicago and Grand Rapids, and will perimt improved service generally to northern Michigan points.

Air Regulations On August 1

Civil Air Regulations have been recodified and were reprinted in the Federal Register on July 16, 1949. Separate reprints of the several Regulations will not be available for some time, but the Federal Register for July 16 is on sale at 50 cents a copy by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Civil Air Regulations in effect on June 30, 1949, were not changed in form or content by the recodification but editorial changes were made to change numerical designations in accordance with the provisions of the Code of Federal Regulations as prescribed by the administrative committee of the Federal Register.

CAB Proposes To Extend West Coast's Certificate

In a show cause order issued recently the Civil Aeronautics Board proposed to extend the temporary certificate of public convenience and necessity held by West Coast Airlines for a period of 5 years. The 5-year extension as proposed by the Board would begin November 22, 1949, which is the expiration date of West Coast's present temporary certificate. West Coast is a feeder airline operating a north-south route from Medford, Oreg., to Bellingham, Wash., via various intermediate points.

In the same order the Board also suggested certain modification in West Coast's present route which would improve the "carrier's revenue-cost ratio."

The Board proposed that McMinnville, Oreg., be removed as a stop on West Coast's route because of the small amount of traffic to and from that point. The Board further proposed that Port Townsend and Kelso, Wash., and Roseburg and Grants Pass, Oreg., now certificated for service by West Coast, but not being served due to lack of adequate airport facilities, be removed from West Coast's certificate. The Board said that future applications for restoration of service to these points could be made when the necessary facilities become available. The question of continuation of services by West Coast to Everett, Anacortes and Mount Vernon, Wash., due to low traffic potential, would also be considered at the same time.

In the same order the Board also proposed that United Air Lines, a trunkline air carrier, suspend service at Salem, Oreg., and that this point be included on West Coast's route. In connection with service to Bellingham, now served by both United and West Coast, the Board proposed that a proceeding be instituted to determine which of the two air carriers should continue to serve Bellingham. The Board said there is no necessity for service to this point by two airlines.

Federal Register Publishes CAA and CAB Regulations

Civil Air Regulations, Economic Regulations, and Regulations of the Administrator in effect on June 30, 1949, were published in the Federal Register July 16, 1949.

Part II, Section 1 of the Federal Register for July 16 contains the Civil Air Regulations and the Economic Regulations and is on sale for 50 cents a copy by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Regulations of the Administrator were published in Part II, Section 2, which is on sale for 20 cents a copy by the Superintendent of Documents.

Nation Needs 440 Air Terminals In RTCA Program, Committee Told

To reduce to a minimum the delays caused by weather and traffic conditions around airports, the Nation by 1952 will need 440 air terminals with varying amounts of navigation facilities, based on traffic and schedules, D. W. Rentzel, Administrator of Civil Aeronautics, told the United States Senate Committee on Interstate and Foreign Commerce recently.

These facilities would include 320 instrument landing systems and an equal number of high-intensity approach light lanes, as compared with 92 instrument landing systems in operation on June 1 and one lane of high-intensity approach lights; 150 airport surveillance radars and 82 precision approach radars by 1952, as compared with only three of each now in operation; and 203 airport traffic control towers, as against 147 on June 1.

"To make possible unobstructed traffic between terminals," the Administrator continued, "we will require 409 very high frequency omni-directional ranges, of which 294 now are in operation; 731 distance measuring equipment ground stations, as compared with three installations today; 418 airways communication stations, against the present 396, and 30 airway traffic control centers, as against 26 today.

New-Type Equipment Needed.—"In addition, there are needed new types of equipment not yet in the operational stage, such as 50 airport time-utilization devices."

A detailed report on the program was submitted.

"Our report shows that the transition phase of the air navigation program, which will be completed by fiscal 1952, will bring about an annual increase in net revenues of the domestic trunk lines of more than 20 million dollars, through reduction of seasonal variation alone, assuming of course that national economy remains fairly constant," the Administrator said.

"Some 14 million dollars of this sum will result from increased passenger, cargo, and other non-mail revenue which would accrue if delays and diversions are cut in half. Experience with the new aids where they have been installed indicates this is a conservative estimate. The balance of the 20 million dollars is based on careful calculations of the cash savings in the cost of operating airliners during periods of delay in the stack or on the ground, the cost of diverting flights from their scheduled destination and the cost of seasonal personnel turnover."

To Resume Growth Trend.—This will be only a minimum gain, the Adminstrator added. Improvements in reliability and safety will enable air traffic to resume its normal growth trend, he said. With the national economy remaining at a high level, the "airlines might reasonably expect that the higher levels of passenger and cargo traffic which can be achieved," he said, "will not only wipe out the 20 million dollars annual deficit but make possible a net taxable income of more than 30 million dollars a year."

The Administrator called attention to the safety record of the domestic and international airlines for the calendar year 1948, pointing out that the combined rate of 1.3 passenger fatalities per 100 million passenger miles was the best in history.

"The CAA, we believe, has contributed in some measure to this excellent record," the Administrator continued, "since every part of our organization keeps safety uppermost in mind as the goal of its endeavors—safety for every phase of aviation, scheduled, nonscheduled, industrial and private.

Safe Operation Sought.—"Our Office of Aviation Safety obviously devotes itself to this end, approving the design and construction of new aircraft and the methods used for maintaining their airworthiness throughout the useful life of the plane; examining all types of airmen for competency, and seeing to it that the aircraft-airman combination is operated in a safe manner.

"Our Office of Federal Airways builds and maintains the navigational aids which give pilots directional guidance whether or not they can see the terrain over which they fly; controls traffic, both en route and at airports, to prevent mid-aid collisions; and distributes through its communications network weather and other information vital to safety.

"Our Office of Airports, through the Federal aid program, has assisted State and local governments in building 275 new airports and improving 692 existing ones. Every additional landing place thus created, of course, increases the safety of flying, and the lengthening of runways, and other improvements to existing fields further contribute to safety.

Development Work Conducted.—"Our Technical Development Center at Indianapolis conducts extensive development work on important phases of safety, such as crash-resistant fuel tanks, bird-proof windshields, and improved systems for detecting, localizing, and extinguishing aircraft fires.

"I will not take up your time by enumerating the safety activities of all the other CAA offices, but I can assure you that they too give constant consideration to the safety of the flying public. I, in my capacity as Administrator, direct and coordinate all these offices toward the common goal of aviation safety. In doing so, I have to make decisions almost every day on matters where there are differences of opinion between various segments of the aviation industry, and where the opinions of numerous Government agencies also must be taken into account. Naturally, any decision I make cannot satisfy all parties and is bound to displease some. As a public official, however, my decisions cannot and must not be made with a view towards satisfying any one group—but must at all times be in the public interest. This is and will continue to be my guiding principle.

Policies Established in Washington.—"In performing the duties I have assumed, I concluded, after studying the functioning of CAA, that it is very important to establish a clear-cut working relationship between the Washington office and the field organization, particularly when it concerns the all-important subject of safety. I have made plain to CAA personnel—and I hope that eventually everyone in the aviation industry will become aware of my policy in this respect—that the directors of the CAA program offices in Washington are responsible for establishing policies and securing their uniform application by all regions. Thus, while the regions will perform all the 'doing' activities of the CAA, the Washington offices are specifically charged with setting the technical standards and with knowing what each of the regions is doing, so that CAA will function as a single unit. When, for example, a new aircraft is up for final type certification, the decision will be made by the Washington Office of Aviation Safety on the basis of uniform interpretation of the Civil Air Regulations, regardless of the region in which the manufacturer is located.

"I have adopted this policy of stronger centralization of responsibility for determining policies and standards because I believe it is in the interests of better administration. I am confident, however, that impartial examination of past actions by the CAA in certificating new aircraft would reveal clearly that they are technically sound and in full conformance with the applicable regulations of the Civil Aeronautics Board."

Board Seeks to Broaden Safety Rules Applicable To Intrastate Carriers

At the direction of the Civil Aeronautics Board the Bureau of Safety Regulation, July 13, proposed that scheduled intrastate operators comply with the same safety regulations as those which apply to scheduled interstate air carriers.

It was pointed out that intrastate carriers are now subject to part 45 of the Civil Air Regulations. Part 45, in its present form, provides that intrastate operators comply only with part 42 of the Civil Air Regulations applicable to irregular or nonscheduled air carriers. The Board, therefore, is proposing to amend part 45 so that the intrastate operators will be subject to parts 40 and 61 of the regulations, the rules which govern the operations of certificated interstate air carriers.

Similarities Found.—The Board said that the same level of safety should apply to comparable operations whether intrastate or interstate. Some of the intrastate scheduled operators operate between large cities over the same airways and into the same airports and utilize the same type of aircraft as the certificated operators and, therefore, should be held to the same level of safety requirements. Other intrastate scheduled operations are comparable to the operations of certificated feeder airlines and should be held to the same level of safety as the certificated feeder airlines.

Part 45, as it now stands, does not hold intrastate operators operating between large cities over the same air lanes to the same level of safety requirements as it does the certificated operators operating over the same route; nor does it hold intrastate operators operating routes comparable to the scheduled feeder airlines to the same level of safety requirements as it holds the scheduled feeder airlines.

Additional Requirements Listed.—The specific major additional requirements which the proposal would make applicable to scheduled intrastate passenger operations are as follows: (a) Company communications and dispatching systems, (b) Pilot route qualifications, and (c) Company maintenance organizations.

The Bureau's proposal, would, however, permit the Administrator of Civil Aeronautics to exercise the same discretionary power he has with respect to scheduled feeder airlines, and to authorize minor deviations in individual cases from the provisions of sections 40 and 61 in the case of intrastate scheduled operators.

CAA Grounds Strato Freight For Violating Regulations

The Civil Aeronautics Administration on July 14 grounded all aircraft of Strato Freight, Inc., and asked the Civil Aeronautics Board to revoke the operating certificate of the carrier because of persistent violations of the Civil Air Regulations stretching over a period of a year. During that period, Safety Agents of the CAA had warned the operator of the offenses, brought charges which resulted in payment of compromise civil penalties, and insisted that the highest safety standards be maintained.

In spite of these warnings and the assessment of penalties, the CAA said, the operator persisted in violations of the Civil Air Regulations.

The suspension grew out of the crash on June 7 of a plane operated by Strato Freight. The plane plunged into the sea after taking off from San Juan, killing 53 of the 81 persons aboard.

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